LOCKEFORD PLANT MATERIALS CENTER

ANNUAL TECHNICAL REPORT

2002

A Technical Summary of Plant Materials Studies
at the Lockeford Plant Materials Center
Lockeford, California

FOR MORE INFORMATION CONTACT:
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INTRODUCTION, HISTORY AND FACILITIES

The Lockeford Plant Materials Center (PMC) is a federally owned and operated facility under the administration of the California State Office of the USDA Natural Resources Conservation service. The Lockeford PMC produces plant materials in cooperation with California Resource Conservation Districts, University of California, Foundation Seed Service, Agriculture Cooperative Extension, and the California Crop Improvement Association.

The plant materials program began February 1935 with the Soil Conservation Service Plant Materials Nursery at Santa Paula, California. In 1939 a 60-acre Plant Materials Center was established at Pleasanton, California. In September 1972 the Pleasant PMC was moved to the current site at Lockeford California.

The California plant materials program and the Lockeford PMC provide plant science support to the USDA-NRCS California Field Offices. The California Plant Materials Center in Lockeford collects promising plants and tests their performance under a variety of soil, climatic and use conditions. Over the past fifty years, 31 plants have been released for commercial seed production to solve soil and water conservation problems.

The Lockeford plant materials center is 106.7 acres of prime farmland located along the Mokelume River near Lockeford California. Irrigation water is available to all fields at the PMC. Initial and advance evaluation of new plant materials are conducted at this site. The PMC responsible for seed increase plantings of potentially valuable plant species and for the maintenance of seed stock of California cooperative releases. Field Evaluation Plantings (FEP's) are studies conducted away from the PMC at problem sites in cooperation with federal, state, municipal agencies, and private individuals.

PERSONNEL

STATE CONSERVATIONIST

Chuck Bell

Plant Resource Specialist

Tish Espinosa
The PRS is on the NRCS Davis Resource Technology Staff, supervised by the State Resource Conservationist, and has a office at the Lockeford PMC.

NAT'L PLANT MATERIALS SPECIALIST

Richard White

PLANT MATERIALS CENTER STAFF

Position	Name	Start	End
PMC Manager	David Dyer	03/03/87	Present
Farm Supt.	Celm Avitia	04/12/76	Present
Gardener	Jim Hutson	02/01/88	Present

CALIFORNIA PLANT MATERIALS COMMITTEE

State Office
DIANE HOLCOMB - State Resource Conservationist

- State Biologist
JERRY REIOUX - State Forester
- State Range Ecologist
BOB FRY - State Agronomist
ALAN FORKEY - State Wetlands Biologist
CHARLES DAVIS - State Conservation Engineer
ANITA BROWN - Director of Public Affairs
LORI METZ - Representing State Soil Scientist

Area I
JOHN WEATHERFORD - Soil Conservationist
ANN FRANCIS - Landscape Ecologist
DENNIS MOORE - Area I Resource Conservationist

Area II
SALLY NEGRONI - Soil Conservationist
PHIL BLAKE - District Conservationist

Area III
JOE WILLIAMS - Cluster Agronomist
DAVE DURHAM - Soil Conservationist
PATRICK EVANS - Soil Conservationist

Area IV
RITA BICKEL - Area IV Resource Conservationist
PATTI NOVAK-ECHENIQUE - Range Ecologist

PMC
DAVE DYER - PMC Manager
TISH ESPINOSA - Plant Resource Specialist / Agronomist

MAJOR LAND RESOURCE AREAS SERVED

4 - CA. Coastal Redwood Belt
5 - Siskiyou - Trinity
14 - Central CA. Coastal Valleys
15 - Central CA. Coast Range
16 - CA. Delta
17 - Sacramento and San Joaquin Valleys
18 - Sierra Nevada Foothills
19 - S. CA. Coastal Plain
20 - S. CA. Mountains
21 - Klamath and Shasta Valleys
22 - Sierra Nevada Range
29 - S. Nevada Basin

NEWLY RELEASED PLANTS FROM THE LOCKEFORD PMC

LK 517f Germplasm Saltgrass Distichlis spicata 2001 # 9032700

Application for Selected Reproductive Material Certification

David A. Dyer, Plant Materials Center Manager, USDA Natural Resources Conservation Service, P.O. Box 68, Lockeford, California, 95237
Phone: 209-727-5319; E-mail: Dave.Dyer@ca.usda.gov

A. Genus: Distichlis Species: spicata (L.) Greene
Variety/ssp: Select class LK 517f Germplasm Common Name: Saltgrass

B. Origin of the material.

State: CA County: Tulare Elevation: 246 feet MLRA: 17f
Mean Annual Precipitation: 7 to 10 inches

C. Method of Selection for Selected and Tested Materials. LK 517f saltgrass was sleeted and tested by the USDA Natural Resources Conservation Service under accession number 9032700.

LK 517f saltgrass was collected from a native stand near Pixley, California at an elevation of 246 feet above sea level, (legal description T023S – R24E – S10). Employees of the NRCS (formerly the Soil Conservation Service) originally obtained the plant material on May 31, 1982. It was evaluated in a common garden at Lockford plant materials center against 70 other populations assembled form California. In 1993 six accessions were selected for advanced evaluations. In 1993, a replicated advanced evaluation planting of the six accessions was established near Winters, California. The advanced evaluation site had clay soils and was on the side slopes of an irrigation canal. In October 1994, an evaluation confirmed that accession number 9032700 was superior.

D. Botanical/Objective description of species. LK 517f saltgrass is a Califronia native, perennial, warm season grass with extensive creeping, yellowish, scaly rhizomes forming large colonies. LK 517f is coarse-leafed with an average leaf width of .120 inches; average leaf length of 2.9 inches; average height of 8.0 inches.

E. Evidence for Selected Material supporting identity of the species and performance characteristics. LK 517f was not bred but selected for its overall performance and uniformity. It has been evaluated for foliage abundance and uniformity, vigor, and resistance to disease and drought.

Summary of performance data of LK517f saltgrass, Distichlis spicata. Randomized block plots with four replications. Evaluation taken October 1994 near Winters, California. F-A = Foliage Abundance, F-U = Foliage Uniformity, V = Vigor, DI = Disease, DR = Drought.

F-A	F-U	V	DI	DR
4	4.5	3	4	4

Rating criteria: 1= excellent, 9 = poor

F. Area of adaptation and primary use of Selected Materials. LK517f saltgrass primary adaptation is to MLRA 17f; However, it is also adapted to MLRA's 16, 18 and all of MLRA 17. Establishment should be in the late spring using rhizomes or plugs planted on one-foot centers. Irrigation water should be applied the first summer to ensure stand establishment. LK517f saltgrass is used for riparian restoration and bank and shoreline stabilization.

G. Procedure for maintaining planting stock. The Lockford PMC will maintain breeders and foundation planting stock.

H. Additional restrictions. None.

I. Reference specie sample sent with application forms.

J. Site description. The soil found at the collection site is a deep, poorly drained clay with a clay loam substratum. Slope is 0 to 1 percent. There is a perched water table at a depth of 3 to 6 feet. Annual rainfall is 7 to 10 inches.

K. Information to assist field inspectors. Average height 8.0 inches, average leaf width .120 inches, average leaf length 2.9 inches.

L. Literature review. There is a need for an adapted variety of saltgrass for use through out parts of central California for riparian restoration use and for bank and shoreline stabilization. Saltgrass does not grow straight, but sprawls and forms dense mats. It is a perennial California native grass and grows in or near marsh areas. It is a warm season grass, growing from April to November. Saltgrass can be used for forage. Also, it can tolerate both water logging and long periods of drought.

M. Availability of plant material. Rhizomes or plugs will be made available through the Foundation Seed Service, University of California, Davis.

1. Annual Technical Report – Los Lunas Plant Materials Center, 1980.
2. Reduction of Levee Erosion in the Sacramento – San Joaquin Delta, Department of Environmental Horticulture, UC Davis.
3. The Jepson Manual of Higher Plants of California, Hickman, Ed., 1993.
4. Saline Agriculture, International Affairs National Research Council, 1990.
5. Grass, an Identification Guide, Lauren Brown, 1979.

PLANT RELEASES FROM THE LOCKEFORD PMC

Scientific	Common	Release	Year
Arctostaphylos patula	greenleaf manzanita	Altura	1989
Atriplex canescens	fourwing saltbush	Marana	1979
Atriplex lentiformis	big saltbush	Casa	1979
Bromus carinatus	California brome	Cucamonga	1949
Bromus hordeaceus ssp.	soft chess	Blando	1954
Ceanothus cordulatus	mountain whitethorn	Maleza	1989
Ceanothus x flexilis	ceanothus	Cuesta	1991
Cleome isomeris	bladderpod	Dorado	1979
Dactylis glomerata	orchardgrass	Akaroa	1953
Dactylis glomerata	orchardgrass	Berber	1981
Elymus glaucus	blue wildrye	Mariposa	2000
Eriogonum fasciculatum	California buckwheat	Duro	1983
Eriogonum umbellatum var. polyanthum	sulphur flower buckwheat	Sierra	1987
Leymus triticoides	beardless wildrye	Rio	1991
Lolium rigidum	annual ryegrass	Wimmera 62	1962

Nassella cernua	foothill needlegrass	LK415f Germplasm	1998
Nassella pulchra	purple needlegrass	LK115d Germplasm	1998
Nassella pulchra	purple needlegrass	LK215e Germplasm	1998
Nassella pulchra	purple needlegrass	LK315d Germplasm	1998
Phalaris aquatica	koleagrass	Perla	1970
Purshia tridentata	bitterbrush	Lassen	1984
Trifolium hirtum	rose clover	MonteFrio	1991
Trifolium hirtum	rose clover	Wilton	1967
Vicia villosa ssp. varia	woollypod vetch	Lana	1956
Vulpia myuros	annual fescue	Zorro	1977

CURRENT STUDIES AND INITIAL AND ADVANCED EVALUATION PLANTINGS

The following studies were requested from NRCS field offices and relate to the Plant Materials Program and Lockeford PMC strategic plan and business plan. In many cases, the NRCS field office staff worked closely with Dave Dyer, PMC Manager, in developing these studies and in some locations they took the lead in data collection. Many landowners helped with site preparation, plot lay out, fencing, planting and application of treatment materials and management treatments. Also, due to NRCS field office and Lockeford PMC staff networking efforts, many NRCS partners and Conservation Districts helped make these studies happen.

Study Number 0610008B Nesella pulchra genetic analysis

Study Confirm diversity of Nesella pulchra with ARS and San Francisco urban office. A paper titled Nucleotide Sequence Variation Among Natural Populations and Commercial Germplasm Sources of Purple Needlegrass was developed and was sent to field offices as a technical note.

Purpose	Technology Development	**Species**	1
Funding:	other	**Native**	1
Duration	1998 - 2001	**Accessions**	10
National	Natural Areas 1.1	**Accessions**	0
Status Active	**Plots:**		0
Type:	Advanced	**Evaluations**	1
Evaluated:	Y		

SWAPA+H:	**NRCS**		**Resource**
Human	CRP	10%	Buffers
Plants	CTA	10%	Grazing Land Conservation
Soil	EQIP	10%	Invasive species
	EWP	10%	Native Species
	GLCI	20%	
	UR	30%	
	WHIP	10%	

A paper titled “Mode of reproduction and amplified fragment length polymorphism variation in purple needlegrass (Nassella pulchra): utilization of natural germplasm sources” was developed. The paper was published in the British Journal of Molecular Ecology (2001) 10, 1165-1177. This paper was an USDA team effort involving the Agricultural Research Service, Natural Resources Conservation Service - Lockeford Plant Materials Center and San Francisco Urban Office.

The paper provides a source of information and background for personnel who are providing restoration and revegitation alternatives to landowners. It gives guidance on the genetic diversity of purple needlegrass and the result of distance from the seed source to the planting site. The USDA-ARS did the laboratory work and data analysis. LK315d purple needlegrass was determined to have a high level of genetic diversity and would be very appropriate for use in the eastern bay area and close enough to the San Francisco population to be considered for use in the western bay area.

Study Number 06C0003A Vegetative control of Medusahead

Study Evaluate Lana vetch broadcast seeding rates with P application for control of Medusahead.

Purpose	Technology Development	**Species**	1
Funding:	NRCS	**Native**	0
Duration	1999 - 2002	**Accessions**	1
National	Rangeland 1.1	**Accessions**	0
Status	Active	**Plots:**	18
Type:	Advanced	**Evaluations**	1
Evaluated:	Y		

SWAPA+H:	NRCS		Resource
Animals	CRP	20%	Buffers
Human	CTA	20%	Grazing Land Conservation
Plants	EQIP	20%	Invasive species
Soil	GLCI	20%	Soil, Water, and Air Quality - Other
	WHIP	20%	

ABSTRACT

'Lana' vetch was broadcast seeded with phosphate fertilizer to determine the optimum seeding rate. 'Lana' vetch was successful the first year at the Jackson, California, site in controlling Medusahead when planted at 20 pounds of pure live seed per acre.

INTRODUCTION

Improved methods for the control of the invasive specie Medusahead, *Taeniatherum asperum,* are needed. Medusahead has invaded large areas of rangeland in California and western Oregon and its spread is continuing at a rapid rate. Over-seeding with 'Lana' vetch, *Vicia dasycarpa*, a self-perpetuating annual legume, appears to be a cost effective practical control (1). 'Lana' vetch can be broadcast seeded on rough terrain and established without seedbed preparation. Over-seeding with 'Lana' vetch results in improved forage quality and control of Medusahead. 'Lana' vetch is an improved

variety of woollypod vetch which is a reliable self-seeding winter-active annual legume developed by the USDA Natural Resources Conservation Service Lockeford Plant Materials Center. This study evaluated three different broadcast-seeding rates of 'Lana' vetch and phosphate fertilizer applications.

METHODS AND MATERIALS

A randomized block design was used with three treatments and three replications. 'Lana' vetch was broadcast seeded at 12, 16, and 20 pounds of pure live seed (PLS) per acre near Jackson, California, (Camanche hunting club, 600 foot elevation, clay loam soil) and near Red Bluff, California, (1200 foot
elevation, clay soil). Phosphate fertilizer with a 0-45-0 formulation was applied to all plots at the time of seeding at a 200 pounds per acre rate. The plots were 20 by 20 feet in size.

RESULTS AND DISCUSSION

'Lana' vetch exhibited poor performance at the Red bluff site. It did produce 13% ground cover by the end of the second year, which was not enough to control Medusahead.

'Lana' vetch showed excellent performance during the first year at the Jackson site. During the first year the 16 PLS pounds per acre rate had a 83.3 % average ground cover and the 20 PLS pounds per acre rate produced an 87.5 % average ground cover. 'Lana' vetch was successful during its first year of establishment and growth in controlling Medusahead. During the second year of evaluations there was a dramatic drop in the 'Lana' vetch ground cover that resulted in a lack of control of Madusahead. This decline was due to phosphate fertilizer not being applied the second year (1).

CONCLUSION

Where 'Lana' vetch is well adapted, it may be successfully broadcast seeded and used to control Medusahead in combination with applications of phosphate fertilizer. Phosphate fertilizer must be applied each year to maintain a high level of Lana vetch ground cover (1). The optimum seeding rate for Lana vetch is 20 PLS pounds per acre.

Table 1. Evaluation of 'Lana' vetch by treatments

Location	Treatment (PLS #/acre)	Average % Cover (2000)	Average % Cover (2001)
Red Bluff	12	3.3	5.0
	16	2.7	13.3
	20	3.0	8.3
Jackson	12	45.0	21.7
	16	83.3	20.0
	20	87.5	11.7

REFERENCES

1) Lana Vetch for Medusahead Control, Robert S. MacLauchlan, Journal of Range Management, Vol. 23, No 5, September 1970, pp. 351-353.

Study Number 06C0005Z Evaluation of native American basket weaving species

Study Develop germination, propagation and establishment methods. Seeking additional bear grass seed collections, initial bear grass collections had 0 germination. In 2003, PMC staff will make sedge root and seed collections at PMC and will determine best propagation methods. No evaluation data at this time. This study is related to a aboriginal management of the PMC riparian area.

Purpose	Technology Development	**Species**	2
Funding:	NRCS	**Native**	2
Duration	1999 - 2003	**Accessions**	2
National	Natural Areas 1.1	**Accessions**	0
Status	Active	**Plots:**	2

Type: Advanced **Evaluations** 1

Evaluated: Y

SWAPA+H:	**NRCS**		**Resource**
Air	CTA	60%	Buffers
Animals	EQIP	30%	Native Species
Human	WHIP	10%	Outreach
Plants			
Soil			
Water			

Aboriginal Management of Riparian Environments in Central California

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Introduction:

Since submittal of the fellowship proposal in 2002, numerous events have led to the modification of scope and intent of the research that was proposed at that time. Specifically, the following have contributed to the modification of the research:

1) Instead of conducting research solely at the Cache Creek Nature Preserve (CCNP) in Woodland, California, a secondary research site has been secured at the Natural Resource Conservation Service's Plant Material Center (PMC) in Lockeford, California. The addition of this second research site broadens the scope of the work by doubling the number of transects for treatment analysis. Similarly, the two sites provide an opportunity for comparison between geographic locations.
2) A third party public entity not involved in this research objected to the treatments at the PMC research site, causing substantial delay in the final treatment of prescribed burning.
3) With the encouragement of community members and my graduate advisor, the focus of my research is currently evolving from a Master Thesis project toward Ph.D. dissertation research.

Considering the above noted changes to the scope and intent of this research, the goals, objectives, and hypotheses initially stated in my research proposal have been modified to reflect the current status of my research.

To summarize the proposal, the primary objective of this research is to identify the effects of prescribed fire on riparian ecosystems in central California. Specifically, this research will attempt to identify how fire can be used as a tool for resource management and conservation. Additionally, this research will attempt to define the historic and contemporary context for aboriginal land management practices and regimes in riparian ecosystems.

The hypotheses this research will attempt to verify are as follows:

1. Does native plant diversity and/or density increase following treatment (coppicing and burning)?
2. Which season of burn (spring or fall) minimizes adverse effects to native flora and fauna?
3. What is the intensity (temperature) and duration of fire in various vegetation types, and do these parameters vary seasonally?
4. How is fire management from a historic perspective different from fire management in the contemporary?
5. What is the fire history or regime within representative riparian ecosystems in central California?

Preliminary Findings:

Prescribed burns at the CCNP were carried out on November 20 and 27, 2002 respectively, and prescribed burn at the PMC was carried out on December 8, 2002. During these fire events, various observations were made of fire conditions and wildlife activity. The fires were generally low intensity with average flame heights less than 3 feet. Primary fuels ignited were leaf litter and woody fuels less than one inch in diameter along with grasses and forbes. During and after the fire events, community participants observed the activity levels of wildlife within the treated areas. Of the target species (small mammals, reptiles, and amphibians) identified for monitoring effects, no mortality was observed. Wildlife species observed included western fence lizard (*Sceloporous occidentalis*), cottontail rabbits (*Sylvilagus* spp.), and various passerine species. It is worthy to note that during the pre-burn trapping, only young of the year *S*. *occidentalis* were trapped or observed during the fall trapping period. No *S*. *occidentalis* were trapped at either site after November 5, 2002. However, during the fires at both the CCNP and PMC several adult *S*. *occidentalis* were observed active within the treated areas. Specifically, adults were observed moving about the charred and actively burning duff. The behavior of these individuals was noted as they burrowed into the warm ash in what appeared to be dust bathing. Similarly, various unidentified species of spiders were observed active within the burn areas, passing through flaming fronts and emerging on the other side apparently unharmed. Peak avifauna activity was observed within and above the burning area. Based on witness observations, it is presumed that avian activity focused around the foraging of insects, which were also active during the fires. Following the fires at the CCNP, it has been noted that mule deer (*Odocoileus hemionus*) activity increased within the burned areas. Specifically, the burned areas demonstrated an observed increase in tracks and bedding areas in comparison with unburned areas.

As stated in greater detail in the “Research Experience to Date” section below, there were difficulties in igniting the fuels at the PMC site. The observations of fire behavior between the fires at the CCNP and PMC exemplified the role weather conditions can have on fire properties. Fire behavior at both sites largely was regulated by fuel moisture and humidity. Thus, it was helpful to have several community members present to assist in ignition and spread of the fire. The figures below represent fire temperature and duration data collected at the CCNP on November 27, 2002 with an ambient air temperature of approximately 63 ˚ F, wind speed average of less than one mile per hour, and relative humidity of 30 percent.

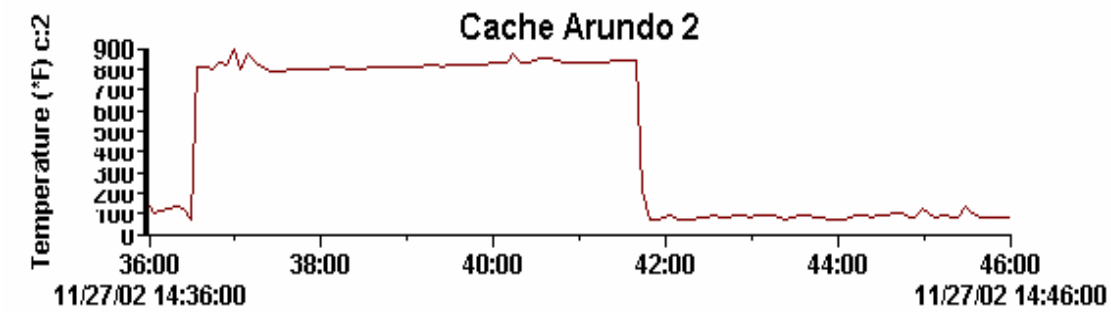


Figure 1. This graph depicts the intensity and duration of fire in *Arundo* wood chip duff. As exemplified by the graph, the fire in this fuel type under the burn conditions reached approximately 800 F and maintained this intensity for approximately five minutes.

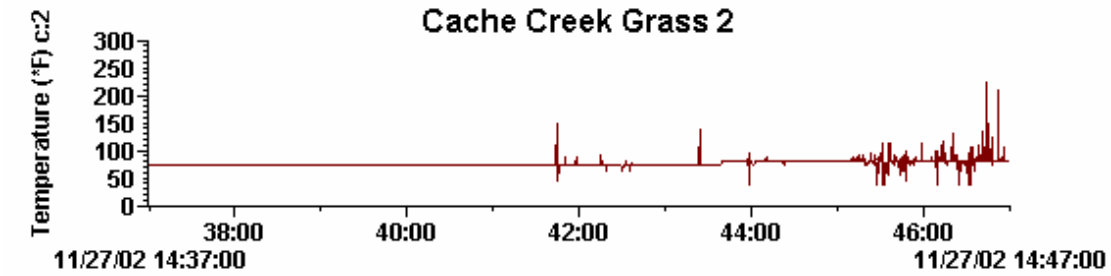


Figure 2. This graph depicts the intensity and duration of fire in a stand of *Carex barbarae*. As exemplified by the graph, the fire in this fuel type under the burn conditions reached approximately 275 F and maintained this intensity for only a few seconds. Additional peaks observed in this graph are likely representative of repeated dousing by the drip torch to test the data logger.

Field Experience to Date:

As indicated in the introduction, the delay in burn treatment at the PMC was initially caused by objections of a third party public entity. Specifically, this entity had been conducting biological monitoring that included stations within the research site at the PMC. Coordination with this entity began approximately one year prior to initiating research at this site. During previous discussions of this research, the entity appeared very supportive of the proposed research. However, as the target date for the burn treatment approached, the entity objected for fear that any burn treatment in the vicinity of their monitoring area might skew the results of their monitoring efforts. Several attempts were made to identify areas where their monitoring might have been affected by this research. However, the staff of the public entity refused to meet to work to a mutually agreeable implementation strategy. In order to maintain peace between the entity, community host, and the research, I delayed the burn treatment until their monitoring season was complete. This automatically meant that the objectives of burn timing following seasonal precipitation would not be met at the PMC. Discussion with community members led to a mutual agreement that we should still attempt to burn this season at the earliest possible date.

This posed another problem with scheduling a burn at the PMC. Specifically, the PMC is within the jurisdiction of the San Joaquin Valley Air Quality Control Board. Regulation of air quality within the San Joaquin Valley is among the most stringent in the United States. Due the season and weather patterns at the desired time of burning, permissible burn days were severely limited. The desired window to burn would have occurred approximately mid-November 2002. However, we were finally granted permission to burn on December 8, 2002. By this date, the PMC had received several inches of precipitation in the form of rain events and dense fog. Thus, many grasses had germinated and the burnable fuels had been dampened considerably. In consideration of the next possible burn day, it was decided to attempt to burn specific areas limited to plots surrounding and including the line transects. Considerable energy was devoted to accomplishing the burn objectives within these relatively small units. Regardless, we were able to achieve treatments within the desired units.

As result of these combined events, the hypotheses were modified to include comparison between fall and spring burning. Thus, this spring four new line transects will be established in the treatment areas at the CCNP and PMC to test seasonal variation in burn treatments.

Successes and Challenges:

Aside from the difficulties previously mentioned, the fieldwork has been quite successful. The CCNP graciously contracted the California Conservation Corps to complete the coppice treatment (i.e., ladder fuel removal) in the treatment area. At the PMC, community volunteers contributed 10 weekends of work to complete the coppice treatment. Since completion of the coppicing and fall burn prescriptions, additional volunteers have offered their assistance for future treatments and research needs.
One of the challenges of this research is coordination and timing of research activities between research sites and participatory communities. Through this process, I have learned the community extends beyond both the Native American and host communities at each research site as represented by recruitment of volunteers from outside of these communities

Lessons Learned Thus Far:

In any research, there must be room for modification of the applied research. I was not anticipating any difficulty in meeting my research objectives this season. However, the obstacles encountered have caused me to reconsider alternatives with the community and devise additional hypotheses that are believed to strengthen the value of this research. Essentially, the lesson is to maintain an open mind and be willing to deviate from the desired path of research when absolutely necessary.

Future Research Directions:

At present, multiple opportunities exist for this research to expand into new research sites and new research communities. Specifically, there has been some interest in furthering this research by investigating the role of fire in the conservation needs of the federally endangered riparian brush rabbit (*Sylvilagus bachmani riparius*). Specifically, species experts have expressed an interest in researching the effects of fire on the riparian brush rabbit. An unpublished report by Close and Williams[1] specifies the need to research the role of fire as a conservation tool for the riparian brush rabbit, and also cites the role of the California Indian Basketweavers Association (CIBA) as an integral partner in conducting this research. This

[1] Close, C.L. and D.F. Williams. date unknown. *Habitat Management for Riparian Brush Rabbits and Woodrats With Special Attention to Fire and Flood*. http://arnica.csustan.edu/esrpp/caswell_sum.htm

is research of interest to several community members and myself due to our resource conservation objectives and involvement with CIBA. Additionally, I have learned of similar research efforts in northern Australia among Aboriginal groups in Kakadu National Park. Preliminary research into fire and Aboriginal practices and policies in Australia demonstrates numerous avenues for comparative community participatory research. Largely, I see the potential research in Australia as an opportunity to study the continuity of continued Aboriginal land management practices as well as how policy within the region could serve as a model for how things might be improved in California. I have been offered the opportunity to pursue these options of broadening my research, however, further consideration is required to determine the practicality and feasibility of either of these options. Certainly both are of interest to me, and provide an interesting situation to diversify the participant pool into a larger research project.

Study Number 06C0007G Evaluation of selected plant materials for uptake of N and P after manure applications in pastures.

Study Select best species for manure N and P uptake. This study was converted to a cultivar trail due to the lack of a PMC laboratory. No evaluation data or laboratory data developed at this time. Perla koleagrass, Tonic plantain and Teton tall fescue was established at a high enough level in the plots to allow for plant clippings after manure and fertilizer treatments. The other species in the study did not get established.

Purpose	Technology Development	**Species**	10
Funding:	NRCS	**Native**	1
Duration	1999 - 2003	**Accessions**	10
National	Cropland 4.1	**Accessions**	0
Status	Active	**Plots:**	30
Type:	Advanced	**Evaluations**	1
Evaluated:	Y		

SWAPA+H:	NRCS		Resource
Human	CTA	20%	Buffers
Soil	EQIP	10%	Grazing Land Conservation
Water	FIP	10%	Nutrient Management
	SP	10%	Soil, Water, and Air Quality - Animal Waste Management - Beef
	WQ	50%	Soil, Water, and Air Quality - Animal Waste Management - Dairy

Study Number 06C0009H Templeton range seeding trail

Study Select best cultivars and seed mixes. Field office and extension staff has the lead on this study. PMC and state range conservationist is helping with the evaluations. This seeding trail study which evaluated four seed mixes which were replicated three times and has three different grazing intensities (moderate, heavy and no grazing). Sixteen single species were seeded with three replications. The moderate grazing treatment appears to render the highest number of seedlings per square foot. The orchard grass has produced the most seedlings, far ahead of the other species. The extension service will provide data analysis and a joint paper is being developed.

Purpose Technology Development
Funding: NRCS
Duration 1999 - 2002
National Rangeland 1.1
Status Active
Type: Advanced
Evaluated: Y

Species 16
Native 1
Accessions 16
Accessions 0
Plots: 48
Evaluations 1

SWAPA+H:	NRCS		Resource
Animals	CRP	30%	Buffers

Soil	CTA	30%	Grazing Land Conservation
Water	EQIP	10%	
	GLCI	20%	
	WQ	10%	

Table 1. Plants and seeding rates used at Varian ranch

Microplot	Common Name	Scientific Name	Seeds per Pound	Seeding Rate Lb./Ac. (Bulk)	Seeds per Sq. Ft. (Bulk)	Grams per Microplot (Bulk)
1	Blue Wildrye	*Elymus glaucus*	135,300	18.5	57	3.1
2	Hard Fescue	*Festuca ovina*	565,000	18.5	240	3.1
3	Hardinggrass	*Phalaris tuberosa*	347,000	18.5	147	3.1
		stenoptera				
4	Orchardgrass	*Dactylis glomerata*	540,000	18.5	229	3.1
5	Perlagrass	*Phalaris tuberosa*	267,000	18.5	113	3.1
		hirtiglumis				
6	Slender Wheatgrass	*Agropyron trachycaulum*	160,000	18.5	68	3.1
7	Mix A:			18.5		3.1
	Hardinggrass (Holdfast) 33.3%	*Phalaris tuberosa*	347,000			
		stenoptera				
	Perlagrass 33.3%	*Phalaris tuberosa*	267,000			
		hirtiglumis				
	Orchardgrass (Paiute) 33.3%	*Dactylis glomerata*	540,000			

8	Mix B:			18.5		3.1
	Perlagrass 48%	*Phalaris tuberosa*	267,000			
		hirtiglumis				
	Slender Wheatgrass 26%	*Agropyron trachycaulum*	160,000			
	Hard Fescue 26%	*Festuca ovina*	565,000			
9	Mix C:			18.5		3.1
	Orchardgrass (Paiute) 50%	*Dactylis glomerata*	540,000			
	Hardinggrass (Holdfast) 25%	*Phalaris tuberosa*	347,000			
		stenoptera				
	Perlagrass 25%	*Phalaris tuberosa*	267,000			
		hirtiglumis				
10	Mix D			18.5		3.1
	Blue Wildrye 50%	*Elymus glaucus*	135,300			
	Orchardgrass 50%	*Dactylis glomerata*	540,000			
11	Bur Medic (Serena)	*Medicago polymorpha*		27.6		4.6
12	Bur Medic (Santiago)	*Medicago polymorpha*		27.6		4.6
13	Barrel Medic (Sephi)	*Medicago tribuloides*		27.6		4.6
14	Barrel Medic (Jemalong)	*Medicago tribuloides*		27.6		4.6
15	Sub. Clover (Seaton Park)	*Trifolium subterraneum*		27.6		4.6

16	Sub. Clover (Campeda)	*Trifolium subterraneum*		27.6		4.6
17	Sub. Clover (Nungarin)	*Trifolium subterraneum*		27.6		4.6
18	Sub. Clover (Koala)	*Trifolium subterraneum*		27.6		4.6
19	Sub. Clover (Losa)	*Trifolium subterraneum*		18.5		3.1
20	Persian Clover (Nitro Plus)	*Trifolium resupinatum*		27.6		4.6

Table 2. Evaluation of seed mixes at Varian ranch, May 2001.

		Total			Ave	Green			Ave Green	Ave		%	
		Seedlings			Seedlings	Seedlings			Seedlings	Height		Seed	
Microplot	Species	0.25 sq ft			0.25 sq ft	0.25 sq ft			0.25 sq ft	in	Vigor	Prod	Notes
1	HPO (Mix A)	22	19	13	18	16	14	10	13	3	7	0	Harding-33%; Perla-33%; Orchard-33%

2	Campeda Sub Clover	2	0	5	2	2	0	5	2	<1	2	0	
3	Slender Wheatgrass	9	4	3	5	5	4	3	4	<2	5	0	
4	Harding Grass	4	9	5	6	2	5	3	3	<2	4	0	
5	Bl Wr/Orchard (Mix D)	17	14	12	14	17	11	12	13	5	9	10	
6	Hard Fescue	34	15	13	21	29	12	12	18	<1	7	0	Blue Wildrye-50%, Orchardgrass-50%
7	Seaton Sub Clover	1	4	6	4	1	1	2	1	<1	4	0	
8	HPO (unknown mix)	16	7	12	12	12	4	9	8	3	7	0	Harding, Perla, Orchard - % unknown
9	Santiago Bur Medic	3	13	10	9	0	0	0	0	<1	9	25	
10	Jemalong Barrel Medic	11	14	6	10	0	4	0	1	<1	8	0	
11	Blue Wildrye	9	25	8	14	9	25	8	14	8	10	20	
12	Orchard Grass	29	10	29	23	24	10	26	20	3	8	0	
13	Nitro Persian Clover	15	3	3	7	0	0	0	0	<1	7	0	
14	Perla Grass	13	4	14	10	2	2	4	3	< 2	2	0	
15	OPH (Mix C)	17	24	33	25	13	19	22	18	3	6	0	Orchard-50%, Perla-25%, Harding-25%
16	Serena Bur Medic	8	12	5	8	0	12	1	4	<1	10	50	75% defoliated by insects/ro

													dents
17	Nungarin Sub Clover												grazed/trampled beyond recognition
18	Losa Sub Clover												grazed/trampled beyond recognition
19	Sephi Barrel Medic	12	2	0	5	5	0	0	2	<1	5	0	grazed by cattle; rodent/rabbit pellets
20	Koala Sub Clover	0	2	1	1	0	0	0	0	<1	1	0	grazed by cattle; rodent/rabbit pellets

Table 3. Evaluation of seed mixes and seedlings at Varian ranch, May 2001

		Total			Ave	Ave	Green			Ave Green	Ave Green	Ave		%
		Seedlings			Seedlings	Seedlings	Seedlings			Seedlings	Seedlings	Height		Seed
Micro plot	Species	0.25 sq ft			0.25 sq ft	per sq ft	0.25 sq ft			0.25 sq ft	per sq ft	in	Vigor	Prod
12	Orchard Grass	29	10	29	23	91	24	10	26	20	80	3	8	0
15	OPH (Mix C)	17	24	33	25	99	13	19	22	18	72	3	6	0
6	Hard Fescue	34	15	13	21	83	29	12	12	18	71	<1	7	0

11	Blue Wildrye	9	25	8	14	56	9	25	8	14	56	8	10	20
1	HPO (Mix A)	22	19	13	18	72	16	14	10	13	53	3	7	0
5	Bl Wr/Orchard (Mix D)	17	14	12	14	57	17	11	12	13	53	5	9	10
8	HPO (unknown mix)	16	7	12	12	47	12	4	9	8	33	3	7	0
16	Serena Bur Medic	8	12	5	8	33	0	12	1	4	17	<1	10	50
3	Slender Wheatgrass	9	4	3	5	21	5	4	3	4	16	<2	5	0
4	Harding Grass	4	9	5	6	24	2	5	3	3	13	<2	4	0
14	Perla Grass	13	4	14	10	41	2	2	4	3	11	< 2	2	0
2	Campeda Sub Clover	2	0	5	2	9	2	0	5	2	9	<1	2	0
19	Sephi Barrel Medic	12	2	0	5	19	5	0	0	2	7	<1	5	0
7	Seaton Sub Clover	1	4	6	4	15	1	1	2	1	5	<1	4	0
10	Jemalong Barrel Medic	11	14	6	10	41	0	4	0	1	5	<1	8	0
9	Santiago Bur Medic	3	13	10	9	35	0	0	0	0	0	<1	9	25
13	Nitro Persian Clover	15	3	3	7	28	0	0	0	0	0	<1	7	0
20	Koala Sub Clover	0	2	1	1	4	0	0	0	0	0	<1	1	0
17	Nungarin Sub Clover													
18	Losa Sub													

	Clover													

*Vigor Ratings: 1= Excellent, 9= Poor

Study Number 06C0012Z Evaluation of Perla grass for carbon levels and potential for biomass-to-ethanol and global climate change

Study Determine Perla carbon levels. UC Davis will do data analysis and results will be stated when this task is completed.

Purpose Technology Development
Funding: NRCS
Duration 2000 - 2005
National Rangeland 1.1
Status Active
Type: Advanced
Evaluated: N

Species 1
Native 0
Accessions 1
Accessions 0
Plots: 9
Evaluations 0

SWAPA+H:	NRCS		Resource
Air	CRP	20%	Buffers
Human	CTA	20%	Carbon Sequestration
	EQIP	10%	Grazing Land Conservation
	GLCI	30%	Soil, Water, and Air Quality - Other
	SP	20%	

SOIL NAME	Arbuckle	Cortina	Hillgate	Kimball
SOIL CLASSIFICATION	f-l, superactive thermic Typic Haploxeralfs	l-skel, superact thermic Typic Xerofluvents	fine, smectitic, thermic Typic Palexeralfs	f, active, thermic mollic Palexeralfs
SLOPE CLASS(ES) *	0 - 3 percent	nearly level	0-3 percent, 3-8 percent	0-3 percent, 3-8 percent
GEOMORPHIC POSITION	low terraces	alluvial fans and floodplains	low terraces	fan terraces
VEGETATION	range - annual grasses and forbs	rangeland	rangeland	annual grasses and forbs
DEPTH CLASS	very deep	very deep	very deep	very deep
RESTRICTION?	n/a	n/a	n/a; abrupt text chg to clay @ 19"	> 40" if present
DRAINAGE	well	somewhat excessively drained	moderately well drained	well drained
PERMEABILITY	moderately slow to slow	rapid	very slow and slow	very slow
SURFACE TEXTURE	sandy loam	grv sandy loam	loam	loam or gr loam
PARENT MATERIAL	alluvium from conglomerate/metased	mixed source gravelly alluvium	mixed alluvium	mixed alluvium
DEPTH TO CALCAREOUS?	n/a	n/a	> 38"	n/a
pH @ 20 cm *	6.2	6.4	6.3	5.7
SURF MSTR @ 15 BARS (%) *	4.6	4.2	6.1	4.9
C:N RATIO - SURFACE *	10	9	9	13

SOIL NAME	Myers	Newville	Parrish	Sehorn
SOIL CLASSIFICATION	fine, smectitic, thermic Aridic Haploxererts	fine, smectitic, thermic Mollic Palexeralfs	f, vermiculitic, mesic, Ultic Haploxeralfs	f, smect, thermic Aridic Haploxererts
SLOPE CLASS(ES) *	0-3 percent	3 - 10 percent +	10 - 30 percent	10 - 30 percent
GEOMORPHIC POSITION	basins	dissected terraces	uplands	uplands
VEGETATION		annual grass range	brushy range	range
DEPTH CLASS	very deep	moderately deep	moderately deep	moderately deep
RESTRICTION?	n/a	26"	26"	29"
DRAINAGE	well drained	well drained	well drained	well drained
PERMEABILITY	slow	slow	moderately slow to slow	slow
SURFACE TEXTURE	clay	gr loam	gr loam	clay loam
PARENT MATERIAL	mixed alluvium	softly consolidated alluvium	resid of Franciscan sed/metased	residuum from calc

				sand/shales
DEPTH TO CALCAREOUS?	25" +	n/a	n/a	25" +
pH @ 20 cm *	n/a	n/a	5.7	6.9
SURF MSTR @ 15 BARS (%) *	n/a	7.2	12	19.1
C:N RATIO - SURFACE *	n/a	10	20	10

SOIL NAME	**Tehama**	**Zamora**
SOIL CLASSIFICATION	f-s, mixed, thermic, Typic Haploxeralfs	f-s, mixed, thermic, Mollic Haploxeralfs
SLOPE CLASS(ES) *	0-3 percent, 3-8 percent	0-3 percent
GEOMORPHIC POSITION	fans and terraces	fans and terraces
VEGETATION	dry farmed crops	annual grasses/forbs, occas oaks
DEPTH CLASS	deep to very deep	deep
RESTRICTION?	n/a	n/a
DRAINAGE	well drained	well drained
PERMEABILITY	slow	moderately slow
SURFACE TEXTURE	silt loam	silt loam
PARENT MATERIAL	mixed alluvium	mixed alluvium
DEPTH TO CALCAREOUS?	n/a	51"
pH @ 20 cm *	6.5	7
SURF MSTR @ 15 BARS (%) *	5	11
C:N RATIO - SURFACE *	10	12

* - Soil Survey Tehama County, CA (1967). Data may be extrapolated from geographically similar soils.

All other data from OSD

One square foot samples of biomass was sampled and weighed on a digital scale. No new Perla planting biomass will be sampled until it is established.

Table 1. Biomass Data

	Old Perla	Annual Range	New Perla
Sample 1 weight (grams/ft^2)	56.4	16.6	Not sampled
Sample 2 weight (grams/ft^2)	57.7	24.2	Not sampled
Sample 3 weight (grams/ft^2)	51.9	25.2	Not sampled
Average weight (grams/ft^2)	55.33	22.0	N/A
Average Pounds per Acre	5,309	2,111	N/A

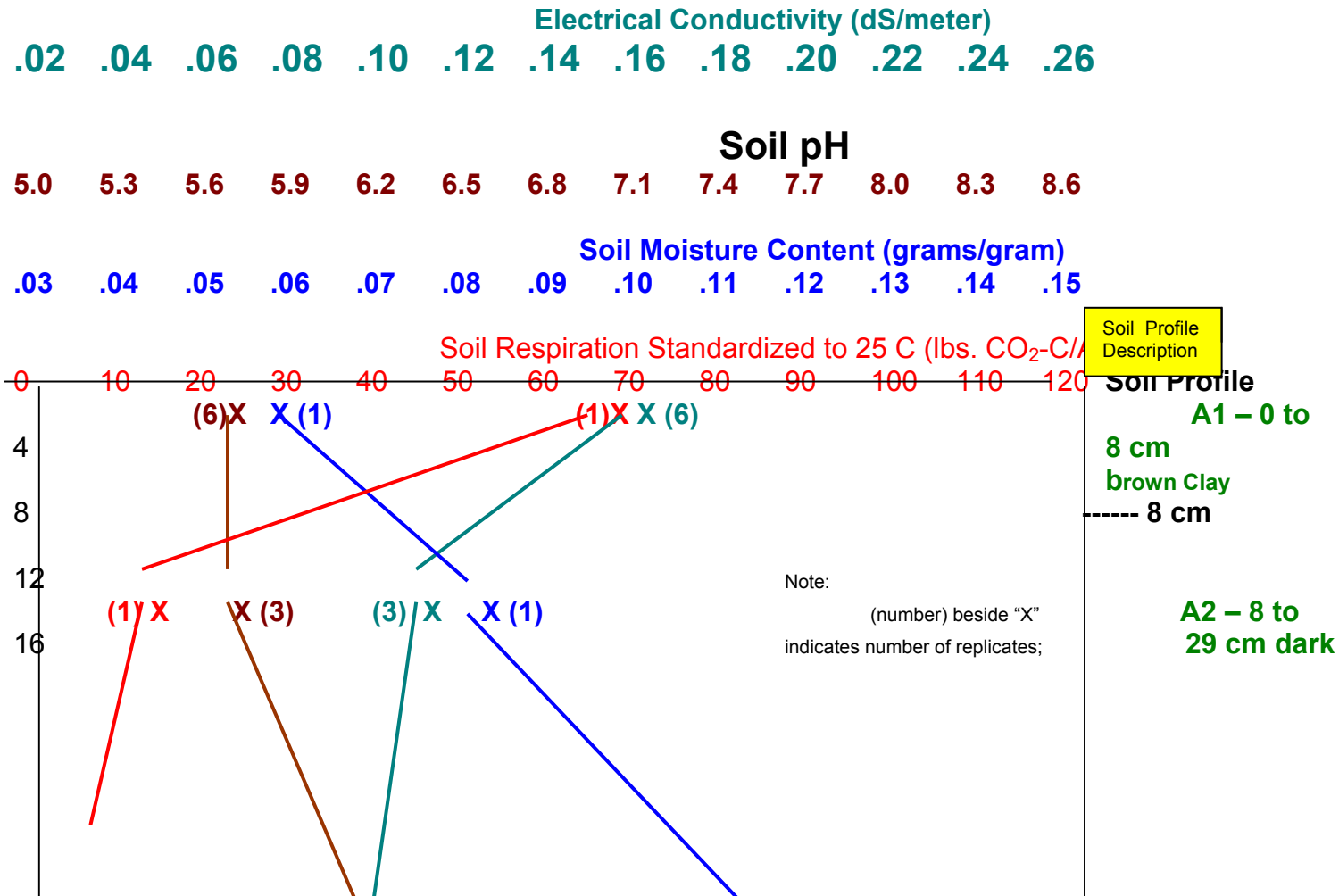
Roots were sifted from one square foot soil for each soil sampling depth and weighed on a digital scale for the 11-year old Perla and annual range grasses. No new Perla planting roots will be sampled until it is established.

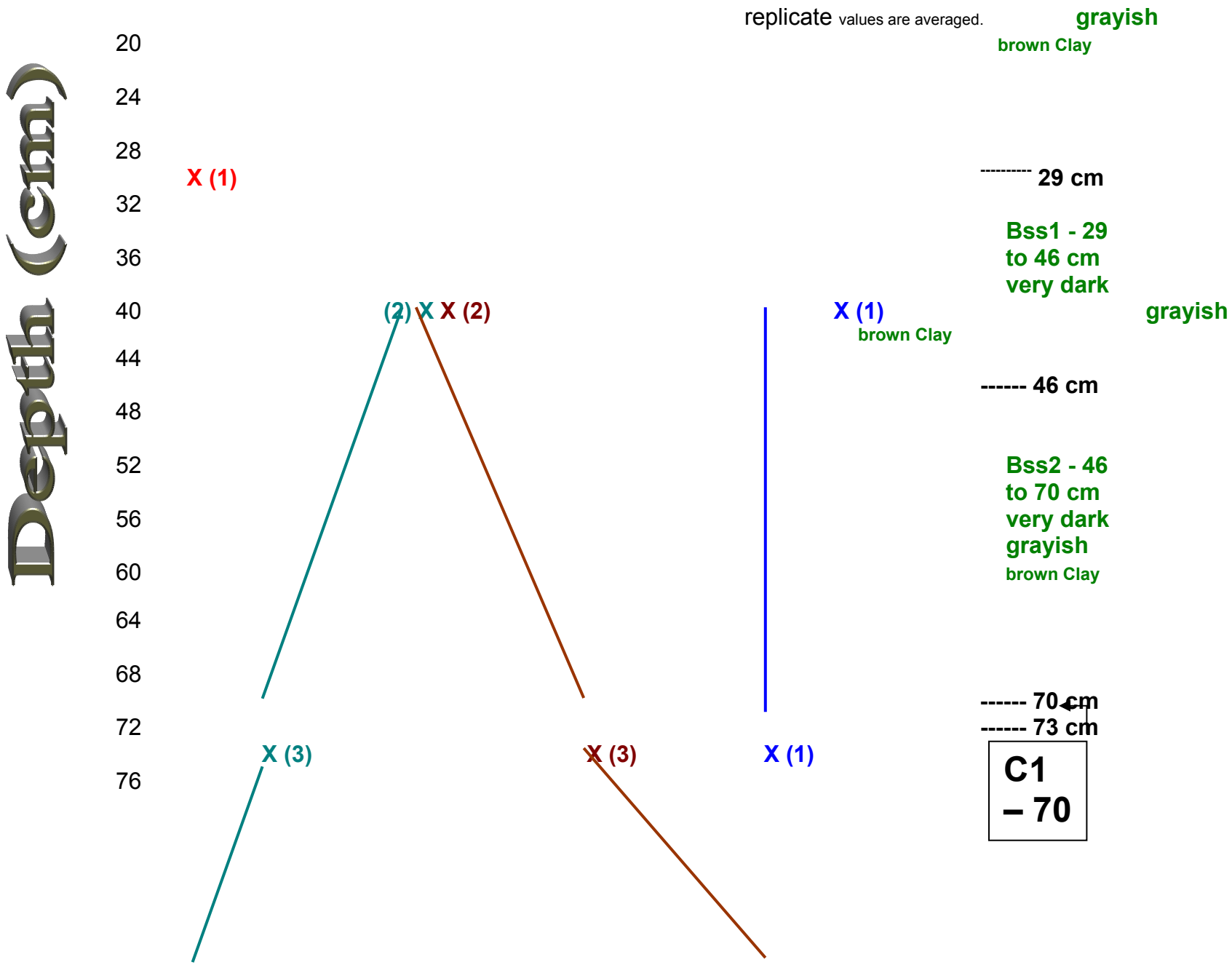
Table 2. Root Data

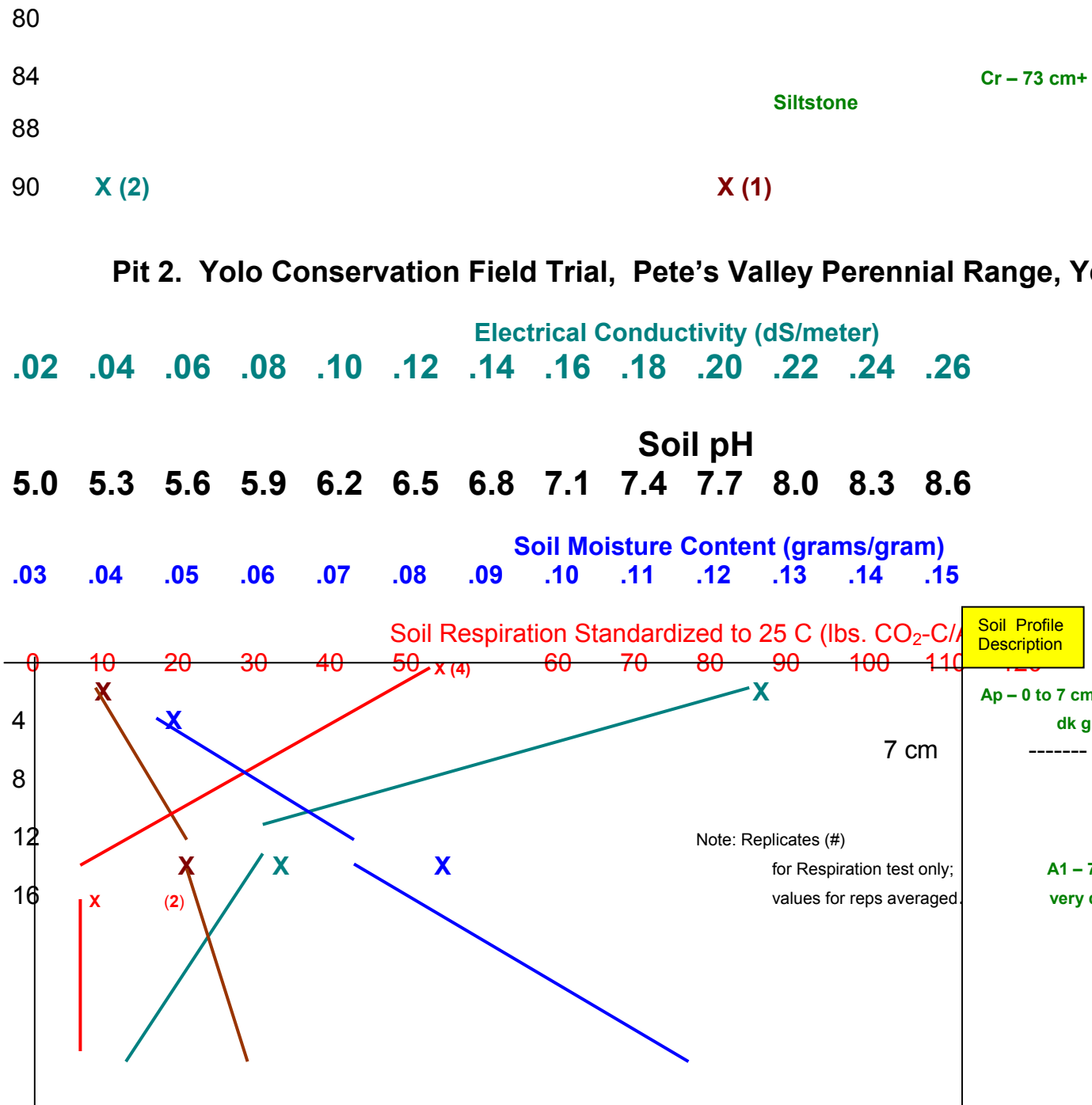
	Old	Annual Range	New Perla

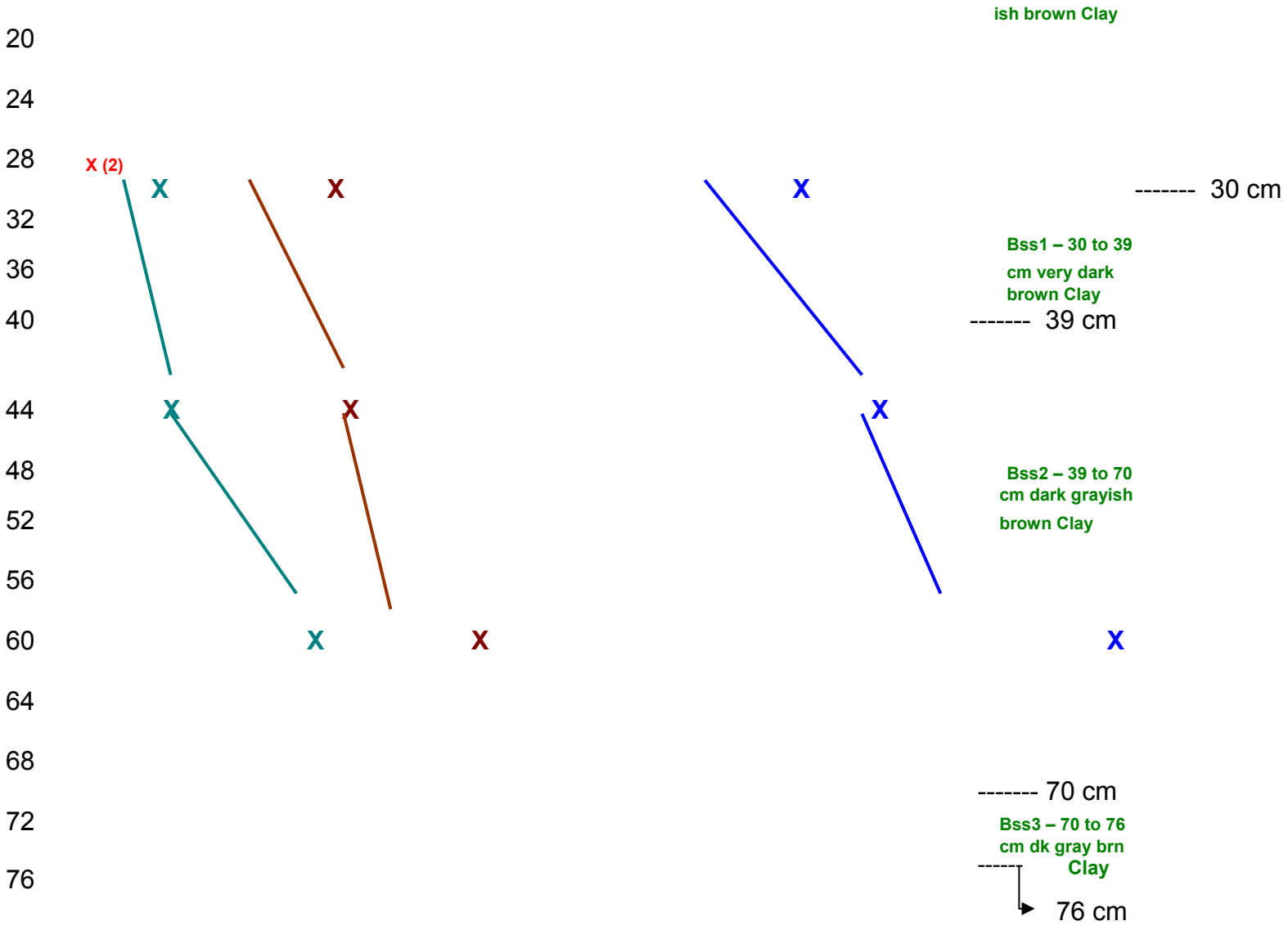
	Perla		
0 – 5 cm (grams/ft²)	218.4	6.6	Not sampled
5 – 15 cm (grams/ft²)	12.8	0.2	Not sampled
15 – 65 cm (grams/ft²)	41.5	Not measurable	Not sampled
65 – 86 cm (grams/ft²)	19.6	Not measurable	Not sampled
85 – 100 cm (grams/ft²)	2.8	Not measurable	Not sampled
Profile Total (grams/ft²)	295.1	6.2	N/A
Pounds / Acre (0 – 100 cm)	28,314	652.44	N/A

Pit 1. Yolo Conservation Field Trial, Yolo L&C Annual Range, Year 2001 Data



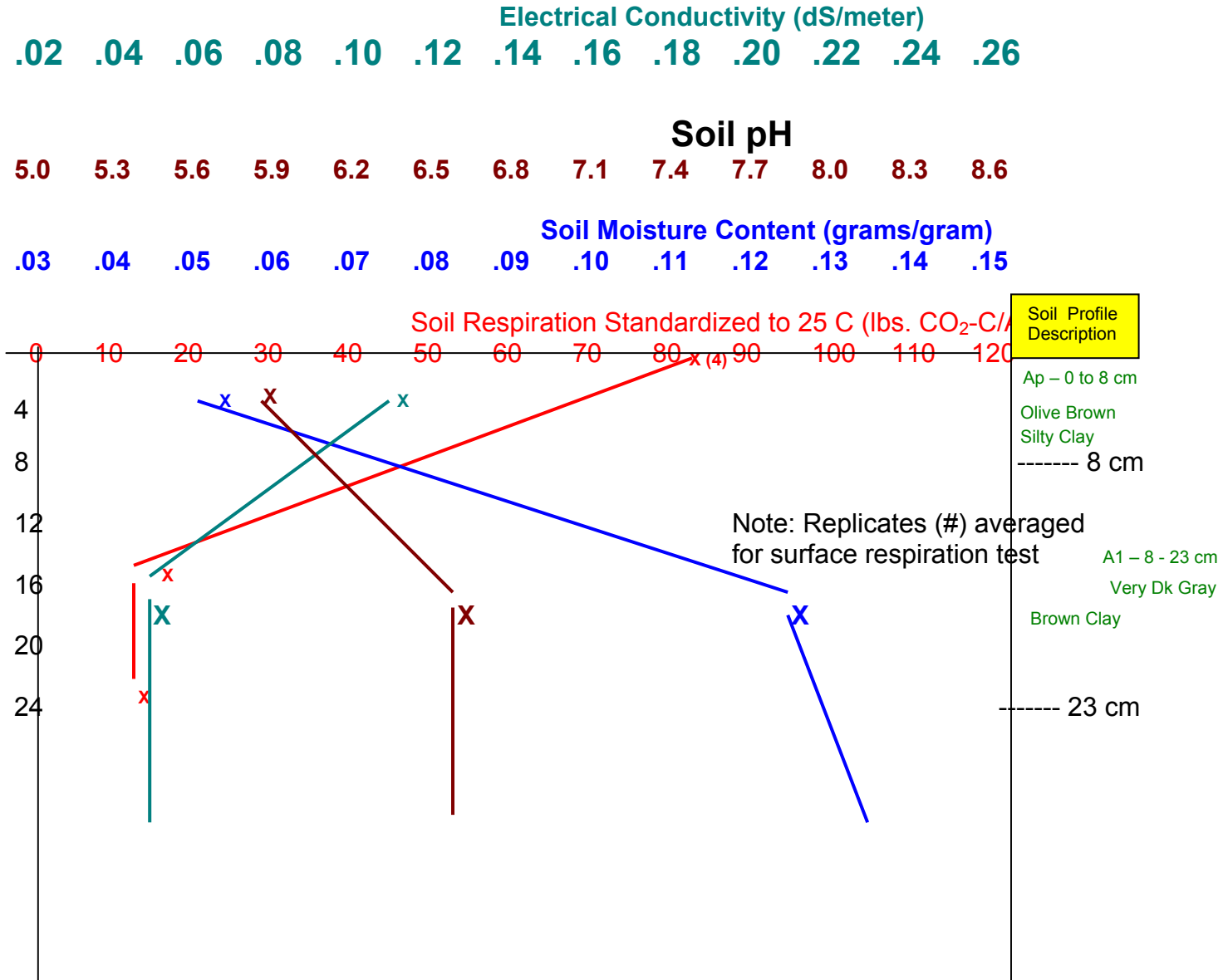

Depth (cm)
20
24
28
32
36
40
44
48
52
56
60
64
68
72
76
replicate values are averaged.
grayish
brown Clay
X (1)
--------- 29 cm
Bss1 - 29
to 46 cm
very dark
grayish
brown Clay
(2) X X (2)
X (1)
brown Clay
grayish
------ 46 cm
Bss2 - 46
to 70 cm
very dark
grayish
brown Clay
X (3)
X (3)
X (1)
------ 70 cm
------ 73 cm
C1
– 70

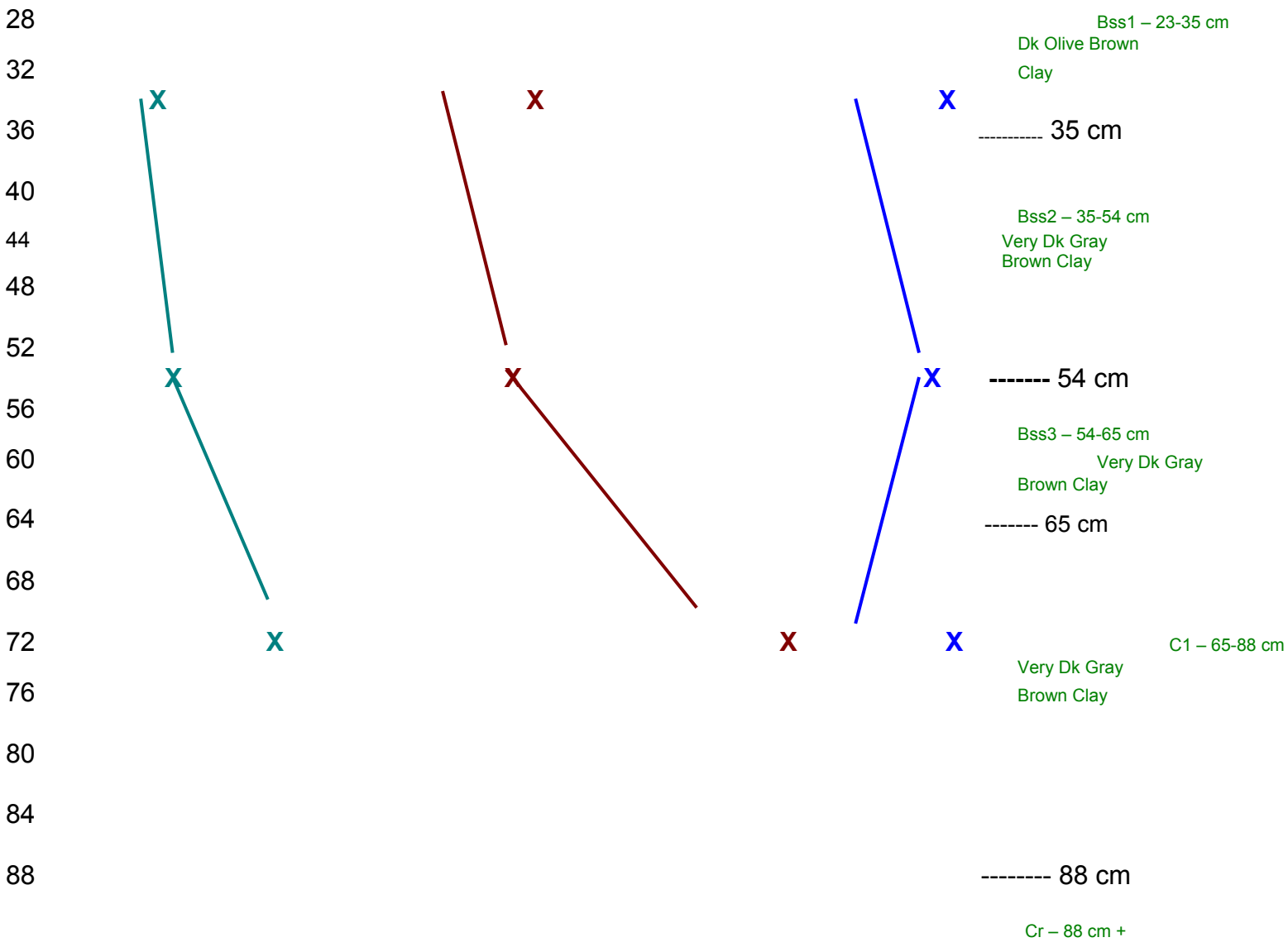

80
84
88
90
Cr – 73 cm+
Siltstone
X (2)
X (1)
Pit 2. Yolo Conservation Field Trial, Pete's Valley Perennial Range, Year 2001 Data
Electrical Conductivity (dS/meter)
.02 .04 .06 .08 .10 .12 .14 .16 .18 .20 .22 .24 .26
Soil pH
5.0 5.3 5.6 5.9 6.2 6.5 6.8 7.1 7.4 7.7 8.0 8.3 8.6
Soil Moisture Content (grams/gram)
.03 .04 .05 .06 .07 .08 .09 .10 .11 .12 .13 .14 .15
Soil Respiration Standardized to 25 C (lbs. CO2-C/A
0 10 20 30 40 50 60 70 80 90 100 110
X (4)
Soil Profile Description
Ap – 0 to 7 cm
dk gray brown
------- Silty Clay
7 cm
A1 – 7 to 30 cm
very dk gray-
Note: Replicates (#)
for Respiration test only;
values for reps averaged.
(cm)
4
8
12
16
(2)


ish brown Clay
20
24
28
X (2)
32
36
40
------- 30 cm
Bss1 – 30 to 39 cm very dark brown Clay
------- 39 cm
44
48
Bss2 – 39 to 70 cm dark grayish brown Clay
52
56
60
64
68
------- 70 cm
Bss3 – 70 to 76 cm dk gray brn Clay
72
76
76 cm

Cr – 76 cm +
Siltstone

Pit 3. Yolo Conservation Field Trial, Yolo L&C Perennial Range, Year 2001 Data




28
32
36
40
44
48
52
56
60
64
68
72
76
80
84
88
Bss1 – 23-35 cm
Dk Olive Brown
Clay
---------- 35 cm
Bss2 – 35-54 cm
Very Dk Gray
Brown Clay
------- 54 cm
Bss3 – 54-65 cm
Very Dk Gray
Brown Clay
------- 65 cm
C1 – 65-88 cm
Very Dk Gray
Brown Clay
-------- 88 cm
Cr – 88 cm +

Bio-mass eucalyptus clone selections study

Study Select best clone for bio-mass use. Eucalyptus Improvement association is the project leader with four sites in California. EIA has data collection and analysis lead and they will make final selections. EIA has had a very low level of activity in recent years and has collected no data in the past five years. EIA has been requested to complete this study. No action to date.

Purpose	Release	**Species**	1
Funding:	Other	**Native**	0
Duration	1991 - 2002	**Accessions**	30
National	Forestland 1.1	**Accessions**	0
Status	Active	**Plots:**	120
Type:	Initial	**Evaluations**	0
Evaluated:	N		

SWAPA+H:	NRCS		Resource
Air	CTA	40%	Buffers
Human	FIP	20%	Carbon Sequestration
Plants	UR	20%	Soil, Water, and Air Quality - Other

Eucalyptus evaluation for windbreak use study.

Study Release improved windbreak tree. One selection has been made and the development of a release notice is in progress. No new data has been collected in the past year.

Purpose	Release	**Species**	45
Funding:	NRCS	**Native**	0
Duration	1982 - 2001	**Accessions**	52
National	Cropland 3.1	**Accessions**	2
Status	Active	**Plots:**	52
Type:	Initial	**Evaluations**	1

Evaluated: Y

SWAPA+H:	NRCS		Resource
Air	CTA	40%	Buffers
Animals	EQIP	30%	Carbon Sequestration
Human	UR	30%	Soil erosion and sediment control - Agriculture
Soil			Soil, Water, and Air Quality - Other

Evaluation of saltgrass study

Study Release developed.

Purpose Release
Funding: Other
Duration 1981 - 2001
National Water Quality 3.1
Status Completed
Type: Advanced
Species 1
Native 1
Accessions 40
Accessions 1
Plots: 40
Evaluations 1
Evaluated: Y

SWAPA+H:	NRCS		Resource
Animals	CTA	20%	Buffers
Plants	EWP	20%	Invasive species
Soil	UR	10%	Native Species
Water	WHIP	10%	Riparian
	WQ	20%	Soil erosion and sediment control - Agriculture
			Soil erosion and sediment control - Urban

Application for Selected Reproductive Material Certification

Name/Address of Applicant/Collector

David A. Dyer, Plant Materials Center Manager, USDA Natural Resources Conservation Service, P.O. Box 68, Lockeford, California, 95237
Phone: 209-727-5319; E-mail: Dave.Dyer@ca.usda.gov

A. Genus: Distichlis Species: spicata (L.) Greene
Variety/ssp: Select class LK 517f Germplasm Common Name: Saltgrass

C. Origin of the material.
State: CA County: Tulare Elevation: 246 feet MLRA: 17f
Mean Annual Precipitation: 7 to 10 inches

C. Method of Selection for Selected and Tested Materials. LK 517f saltgrass was sleeted and tested by the USDA Natural Resources Conservation Service under accession number 9032700.

LK 517f saltgrass was collected from a native stand near Pixley, California at an elevation of 246 feet above sea level, (legal description T023S – R24E – S10). Employees of the NRCS (formerly the Soil Conservation Service) originally obtained the plant material on May 31, 1982. It was evaluated in a common garden at Lockford plant materials center against 70 other populations assembled form California. In 1993 six accessions were selected for advanced evaluations. In 1993, a replicated advanced evaluation planting of the six accessions was established near Winters, California. The advanced evaluation site had clay soils and was on the side slopes of an irrigation canal. In October 1994, an evaluation confirmed that accession number 9032700 was superior.

D. Botanical/Objective description of species. LK 517f saltgrass is a Califronia native, perennial, warm season grass with extensive creeping, yellowish, scaly rhizomes forming large colonies. LK 517f is coarse-leafed with an average leaf width of .120 inches; average leaf length of 2.9 inches; average height of 8.0 inches.

M. Evidence for Selected Material supporting identity of the species and performance characteristics. LK 517f was not bred but selected for its overall performance and uniformity. It has been evaluated for foliage abundance and uniformity, vigor, and resistance to disease and drought.

Summary of performance data of LK517f saltgrass, Distichlis spicata. Randomized block plots with four replications. Evaluation taken October 1994 near Winters, California. F-A = Foliage Abundance, F-U = Foliage Uniformity, V = Vigor, DI = Disease, DR = Drought.

F-A	F-U	V	DI	DR
4	4.5	3	4	4

Rating criteria: 1= excellent, 9 = poor

N. Area of adaptation and primary use of Selected Materials. LK517f saltgrass primary adaptation is to MLRA 17f; However, it is also adapted to MLRA's 16, 18 and all of MLRA 17. Establishment should be in the late spring using rhizomes or plugs planted on one-foot centers. Irrigation water should be applied the first summer to ensure stand establishment. LK517f saltgrass is used for riparian restoration and bank and shoreline stabilization.

O. Procedure for maintaining planting stock. The Lockford PMC will maintain breeders and foundation planting stock.

P. Additional restrictions. None.

Q. Reference specie sample sent with application forms.

R. Site description. The soil found at the collection site is a deep, poorly drained clay with a clay loam substratum. Slope is 0 to 1 percent. There is a perched water table at a depth of 3 to 6 feet. Annual rainfall is 7 to 10 inches.

S. Information to assist field inspectors. Average height 8.0 inches, average leaf width .120 inches, average leaf length 2.9 inches.

T. Literature review. There is a need for an adapted variety of saltgrass for use

through out parts of central California for riparian restoration use and for bank and shoreline stabilization. Saltgrass does not grow straight, but sprawls and forms dense mats. It is a perennial California native grass and grows in or near marsh areas. It is a warm season grass, growing from April to November. Saltgrass can be used for forage. Also, it can tolerate both water logging and long periods of drought.

M. Availability of plant material. Rhizomes or plugs will be made available through the Foundation Seed Service, University of California, Davis.

References:

6. Annual Technical Report – Los Lunas Plant Materials Center, 1980.
7. Reduction of Levee Erosion in the Sacramento – San Joaquin Delta, Department of Environmental Horticulture, UC Davis.
8. The Jepson Manual of Higher Plants of California, Hickman, Ed., 1993.
9. Saline Agriculture, International Affairs National Research Council, 1990.
10. Grass, an Identification Guide, Lauren Brown, 1979.

Time Spent on Activities for Lockeford PMC

State = CA

Technology		**Technology**		**Seed/Plant**	
Releases	5 %	**Written:**	10 %	**Foundation:**	20 %
Technology	15 %	**Oral:**	5 %	**Field**	10 %
		Other:	5 %	**Funded Production:**	0 %
Subtotal	20 %	**Subtotal**	20 %	**Subtotal**	30 %

Maintenance and	
Facility or Land	30 %

Other 0 %

Publications for Lockeford PMC

Fiscal Year 2002

R.Perez and D.Dyer 2001. Lockeford PMC poster. Lockeford PMC poster, Fresno, CA. 12-13-2001. 1p.

D.Dyer 2002. Escondido, LA, Somis Trip Report. Lockeford PMC, Lockeford, CA. 1-24-2002. 5p.

D.Dyer 2002. Lockeford PMC 2001 Annual Technical Report. NRCS, Lockeford, CA. 2001. 48p.

D.Dyer 2002. Lockeford PMC year 2001 progress report of activities. Lockeford PMC, Lockeford. 3-26-2002. 4p.

D. Dyer and T. Espinosa 2002. Lockeford PMC and PM Program Success Stories. Lockeford PMC, Lockeford. 1. 3p.

Audrey Cooper 2002. Lockeford is little-Known research hub. Stockton Record, D.Dyer provided all input, Stockton, CA. Aug. 19, 2002. 2p.

Presentations for Lockeford PMC

Presentations for **CAPMC Listing**

Fiscal Year 2002

Date
Title: Use of the Plant Materials program with arundo control CFT.
Presenter D.Dyer **Location** Somis

Date 10/3/01
Title: PMC tour
Presenter D.Dyer **Location** PMC

Date 10/4/01
Title: PMC tour of native grass areas
Presenter D.Dyer **Location** PMC

Date 10/23/01
Title: PM program overview and its use for buffers
Presenter D. Dyer **Location** PMC

Date 11/29/01
Title: PM program overview, PMC tour and plants role in BMP's.
Presenter D.Dyer **Location** PMC

Date 12/6/01
Title: PM program overview and jobs in USDA
Presenter D.Dyer **Location** PMC

Date 1/14/02
Title: Native plants used in landscapes
Presenter D.Dyer **Location** Rincon, CA

Date 1/15/02
Title: Native plants used in restoration and demonstration sites.
Presenter D.Dyer **Location** Willson High School East LA

Date 1/28/02
Title: Lockeford PMC studies and programs
Presenter D.Dyer **Location** Lockeford, CA

Date 2/12/02
Title: Plant Materials program use in developing Tule lake CFT for wind erosion control.

Presenter D.Dyer **Location** Tule Lake, CA
Date 2/22/02
Title: Review of weed mapping issues, weed studies and CalFed grants
Presenter D. Dyer **Location** CDFA Sacramento, CA

Date 3/5/02
Title: CalFed proposal recommendations
Presenter D.Dyer **Location** Davis, CA

Date 3/14/02
Title: New Emp. Training, tour of PMC
Presenter D.Dyer **Location** PMC Lockeford

Date 4/16/02
Title: PM program and PMC activities
Presenter D.Dyer **Location** PMC

Date 5/21/02
Title: PMC maintance and budgets
Presenter D.Dyer **Location** Lockeford PMC

Date 5/23/02
Title: CA tour of plant materials
Presenter D.Dyer, T. Espinosa, J. **Location** central CA

Date 6/6/02
Title: NEDS new staff training
Presenter D.Dyer, T. Espinosa **Location** PMC

Date 6/10/02

Title: Ag in the class room
Presenter D.Dyer **Location** PMC

Date 6/19/02
Title: PMC studies overview and PMC tour
Presenter D.Dyer, T. Espinosa **Location** PMC

Date 7/18/02
Title: New staff training for NEDS
Presenter D.Dyer and T. Espinosa **Location** Lockeford PMC

Date 7/24/02
Title: SECP training on plant materials
Presenter D.Dyer and T. Espinosa **Location** Lockeford PMC

Date 7/29/02
Title: NRCS weed/invasive sp. Control efforts
Presenter D. Dyer **Location** Sacramento CDFA

Date 8/22/02
Title: Plant Materials Program
Presenter D.Dyer **Location** Lockeford PMC

Date 9/12/02
Title: Review of PM Program and PMC for NEDS new staff
Presenter D.Dyer and T. Espinosa **Location** Lockeford PMC

Date 9/19/02
Title: The PM program and PMC
Presenter D.Dyer **Location** Lockeford PMC

Customers Assisted by Lockeford PMC

Date	Customer Name	Affiliation	Cust. Type	Gend.	Race	Information	How Prov.	Staff	Time (minutes
9/24/02	Dennis Moore	NRCS Area Office, CA	in person	DAD		OT 960 ICST.	Male	White	Tule lake planting and evaluation of
9/23/02	Rob Wilson	Coop ext. service	CO	Male	White	Planting of invasive sp.			
		in person	DAD	960		Susanville			Study at
9/16/02	Barny Johansing	tempelton	CO	Male	White	Review production issues of Perla	phone	DAD	30
9/16/02	Christian Davis	Sacramento Service Center, CA				FO	Male	White	Range drill contacts
		phone	DAD	15					
9/16/02	Jake Sigg	CA Native plant soc.	CO	Male	White	Veldt grass use in			
		e-mail	DAD	90					Monterey co.
9/16/02	Martha Mallery	Ca Native Plant Soc.				CO	Fema	White	Review
		phone	DAD	20					
						issues			of native plants and park
9/16/02	Phil Hogan	Woodland Service Center, CA	FO	Male	White	Kenaf used to clean			
		e-mail	DAD	10					process water
9/16/02	Russ Hass	PM Technical	OT	Male	White	Review of NPS agreement drafts	e-mail	DAD	

300		Advvisor - National Park Service, CO							
9/16/02	Shelby Gatlin	California NRCS State Office	SO	Fema			White	Review of weed calendar	e-mail DAD 60
9/13/02	Don Hankins	UC DAVIS	CO	Male	American Indian/			PMC study of sedges in person	DAD 45
9/13/02	Lisa Thrrell	USDA USFS	CO	Fema	Unknown	Porpagation methods		e-mail	DAD 10
9/13/02	Ron Stutts	USFS	CO	Male	Unknown	NASA Moon tree listing on web site		e-mail	DAD 15
9/13/02	Wade Anderson	Cherokee Service Center, OK	FO	Male			White	International activites and projects	e-mail DAD 5
9/11/02	Ilona Smith	California NRCS State Office	SO	Fema	White	Native plant landscape guide review		in person	DAD 240
9/11/02	Robert Bailey	Redding Service Center, CA	FO	Male			White	Growing and shipping of Oak trees	in person JH 1200
9/6/02	Bob Long	Placerville Service Center, CA	FO	Male			White	Seeding review	in person DAD 120
9/6/02	Chip Bouril	Napa Service Center,	FO	Male			White	Steam restoration plants	e-mail DAD 5

		CA								
9/6/02 planting	Phil Hogan e-mail	Woodland Service DAD Center, CA	45	FO	Male	White	Review of hedgerow			
9/5/02 CFT proposal	Rita Bickel	NRCS Area Office, phone CA	DAD	OT 30	Fema	White concept review.	vineyard and wetland			
9/5/02 10	Todd Golder	Willows Service Center, CA	FO	Male	White	Burber seed location of source		phone	DAD	
9/3/02 sheets	Phil Hogan e-mail	Woodland Service DAD Center, CA	15	FO	Male	White	Plants data base fact			
8/30/02	Barny Johansing	Rancher	GE	Male	White	How to grow Perla seed	phone	DAD	60	
8/30/02 Research at	Rob Wilson	Coop ext. service phone	DAD	CO 45	Male	White Susanville	Invasive sp. (white top)			
8/26/02 story on PMC	Audrey Cooper	in person	Stockton Record DAD	GE 200		Fema	White	Helped with		
8/26/02	Dr. Mary Geigerm	Mich. State Univ	GE	Fema	White	native plant restoration	phone	DAD	20	
8/26/02 of tree/range CFT	Patrick Evens	phone	Placerville Service Center, CA DAD	30		FO	Male	White	Review	

8/22/02	Lauren Hastings	CALFED 1416	CO	Fema	White	CALFED proposal review requests	e-mail	DAD	15	Ninth St Room 630
8/20/02	Mike Wackman	House of Rep. Cong.	CO	Male	White	Review of PMC and use of PMC for	in person	DAD	200	Pombo
8/13/02	Chuck Bell	California NRCS State Office	SO	Male	White	Vulnerability Assessment notes and review	e-mail	DAD	120	
8/6/02	Tom Jones	USDA-ARS Utah State Univ.	CO	Male	White	Native seed for genitic study	mail	DAD	100	
8/2/02	Ken Weaver	Susanville Service Center, CA	FO	Male	White	Squirreltail seed for weed study	e-mail	DAD	70	
8/1/02	Sharon benes	CSU Fresno	CO	Fema	White	Rio seed for study	mail	JH	45	
7/25/02	Rick Aguayo	Apple Valley Service Center, CA	FO	Male	Hispanic	Processing facilities for Mojave yucca plant	phone	DAD	60	
7/19/02	Fredrico Mier	Calivares High School Prin.	GE	Male	Hispanic	Plant to use in a landscaping project	in person	DAD	120	
7/17/02	Terry Huff	Concord Service Center, CA	FO	Male	White	Reviewed and provided ideas for new irrigated ag. Land development in the Livermore area.	in person	DAD	420	

6/18/02	Ann Francis	Alturas Service Center	FO	Fema	White	Review of willow bioeng. Standards for use in Fresno	mail	DD	90	
6/18/02	Bob Long	Placerville Service Center	FO	Male	White	Sp recommendation for landfill cover at Jackson.	phone	DD	20	
6/18/02	Vic Smothers	Escondido Service Center	FO				Male	White	High School	training site development
6/14/02	Phil Hogan	Woodland Service Center	FO	Male	White	Review of 800 ac. At Pacific Coast Producers for using tomato waste. Recommended sp to use and other uses of waste and property.	in person	DD	420	
6/13/02	Victor Schaff	California NRCS State Office	CO	Male	Hispanic	PMC releases	in person	DD	90	
6/6/02	Steve Schoenig	California NRCS State Office	CO			Male	White	weed mapping isssues	e-mail	DD 10
6/5/02	Steve Griffith	USDA-ARS	CO	Male	White	Collecting grass plot samples for ethonol study	in person	DD	420	
6/3/02	Razi Syed	LA area	GE	Male	Asian/ Pacific	Native plant low water use in landscaping in LA area. 310-439-2146	phone	DD	20	
6/3/02	Sylvia	Red Bluff Service	FO	Fema	White	Release papers on				

many PMC Hickenlooper	mail	DD	60			Center cultivars			
5/30/02 John Weatherford	Woodland Service in person	FO DD	420	Male	White	carbon CFT	Root samples on native grasses for		
5/30/02 John Weatherford	Woodland Service in person	FO DD	120	Male	White	Evaluation of yellow star thissel plots			
5/28/02 Rita Bickel	NRCS Area Office mail	OT DD	45	Fema	White	Ag handbook 339, locate and send			
5/23/02 John Anderson	California NRCS State Office	CO DD	30	Male	White	seed production review	in person		
5/20/02 Russ Haas	Colorado NRCS State Office	SO	Male	White	NPS project review	in person	DD	250	
5/15/02 Alicia Flammia	UCD e-mail	GE DD	15	Fema	Hispanic	Propagation advice on Danthonia			
5/15/02 Bryan Largay	San Cruz co RCD e-mail	GE DD	20	Male	White	californica. spread of RIO in relation to the same			
5/15/02 Chris Locke	Stockton	CO	Male	White	Native plant planting	sp in river areas.	in person	DD	15
5/15/02 Dennis Moore	Yreka Service in person	FO DD	1800	Male	White	Intercenter strain trail planting at tule			
	Center					lake, 40 acc.			

5/15/02	Ed Tallyn	California NRCS State Office	SO	Male	White	Review of new MLRA map	in person	DD	45
5/15/02	Gary Shmit	USDA- FS	GE	Male	White	Meeting to review seed zones.	phone	DD	15
5/15/02	Hank Wyman	California NRCS State Office	SO	Male	American Indian/	Review PM program and tour of PMC	in person	DD	60
5/15/02	Holley Bushman	IT corp 619-533-7329	GE	Fema	White	Rooting depth of grasses and ET rates with Acs	phone	DD	10
5/15/02	John Anderson	Woodland	CO	Male	White	Review of seed production fields	in person	DD	80
5/15/02	Lauren Hastings	CALFED 1416 Ninth St Room 630	CO	Fema	White	review of calfed paper work on	phone	DD	20
5/15/02	Millissa Trader	USGS Las Vegas 702-914-2206	GE	Fema	White	Tech note 38	mail	DD	12
5/15/02	Phil Blake	Napa Service Center	FO	Male	White	Willow study evaluation, range CFT, vineyard erosion study.	phone	DD	30
5/15/02	Randy Suthard	UCD-Soils	GE	Male	White	Ten UCD students reviewed soil pits at PMC.	in person	DD	5
5/15/02	Stan Young	Utah Crop imp ass.	GE	Male	White	Growing Rio in Utah.	phone	DD	20

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5/15/02	Steve Griffith	USDA-ARS		CO	Male	White	Ethanol grass samples of PMC grasses, related to carbon CFTs		in person	DD 600
5/15/02	Steve Schoenig		sacramento		CO	Male	White	review of weed projects	phone	DD 15
5/15/02	Tim Walls	Mendocino Co RCD		GE	Male	White	Willow use in a stream erosion site.		phone	DD 20
5/15/02	Victor Schaff	somis		CO	Male	Hispanic	seed production of NRCS varities		phone	DD 25
5/7/02	Steve Griffith	USDA-ARS		CO	Male	White	provide seed samples for germenation study		in person	JH 120
4/30/02	Erik Beardsley		Red Bluff Service Center	FO	Male	Hispanic	Grass cliping at Burrows ranch for carbon CFT		in person	DD 600
4/24/02	John Weatherford	Woodland Service Center		FO	Male	White	Root sampling of native grasses for carbon CFT		in person	DD 1200
4/23/02	Carl Striby	Templeton Service Center		FO	Male	White	Evaluation of range seeding plots		in person	DD 660
4/22/02	Bob Long	Placerville Service Center		FO	Male	White	Evaluation of Lana vetch plots at Comanche hunting club.		in person	DD 180

3/27/02	Lauren Hastings		CALFED	1416	CO	Fema		White	Review of CalFed proposals.	e-mail
DD	900	Ninth St	Room 630							
3/27/02	Lauren Hastings		CALFED	1416	CO	Fema		White	Review of CalFed proposals	e-mail
DD	950	Ninth St	Room 630							
3/27/02	Lauren Hastings		CALFED	1416	CO	Fema		White	Reviewed and reccommended funding	in person
DD	950	Ninth St	Room 630							
in reguards to 110 CalFed proposals which totaled $480,000,000. RCDs, Govt. , Univ., and NGOs developed these proposals to work on water quality and invasive sp. Issues. Spent a total of 100 hr on this work.										
3/26/02	Dave Zoldoski		Fresno State Univ.			GE		Male	White	Reference for proposal.
phone	DD	10	Center For Irrg. Tech.							
3/26/02	Emilo Ranka	UC Davis	GE	Male	Hispanic	Native plant propagation for field day		phone	DD	13
3/26/02	Mark Venis	Vetiver works	GE	Male	Unknown	Use of vetiver grass in NRCS programs		phone	DD	15
3/26/02	Sam Aslan	Indio Service Center		FO	Male	Other		Use of mustard as a cover crop	phone	DD
10										

2/6/02	Anita Brown	California NRCS State Office	SO	Fema	White	Use of grasses for bio-energy production	e-mail	DD	15	
2/6/02	Ceci Dale-Cesmat	Susanville Service Center	FO	Fema	White	Selection, use and obtaining range seed for study at Susanville.	e-mail	DD	80	
2/6/02	Erik Beardsley	NRCS Area Office	OT	Male	Hispanic	Tule lake CFT planning.	phone	DD	20	
2/6/02	James Komar	NRCS Area Office	OT	Male	White	Soil quality info for Tule lake CFT	e-mail	DD	14	
2/6/02	Lincoln Smith	USDA-ARS	GE	Male	White	Ideas for turf research workshop.	e-mail	DD	75	
2/6/02	Patrick Evans	Placerville Service Center	FO	Male	White	Brush control in new tree planting area CFT review.	in person	DD	180	
2/6/02	Richard Campbell	Lancaster Service Center	FO	Male	Black	Willson High School hillside natural resources education and demonstration area.	in person	DD	600	
2/6/02	Rincon Indians	Escondido	GE	Unkn	American Indian/	Landscape plan for Rincon Indians.	in person	DD	600	
2/6/02	Ron Tiller	UCD	GE	Male	Unknown	Info. On Atriplex confertifolia propagation.	e-mail	DD	20	
2/6/02	Sandra Higa	Alturas Service Center	FO	Fema	White	Tule lake CFT development and meeting with all interested agencies.	in person	DD	1500	

2/6/02	Steve Jewett	Somis Service Center	FO	Male	White	Arundo CFT and cover crop CFT	in person	DD	600	
2/6/02	Troy Bailey	Bailey Seed	GE	Male	White	Berber foundation seed request, total 120 50 AC in OR.	in person	JH		
1/11/02	Bob Joy	Hawaii Plant Materials Specialist	OT	Male	White	Review of W. PM notes	e-mail	DD	10	
1/11/02	Chuck Cambra Blando	Kamprath seed foundation seed	CO	CO	Male	Hispanic	phone	DD	12	
1/11/02	Dan Ogle	Idaho Plant Materials Specialist	OT	Male	White	National PM meeting agenda items	e-mail	DD	10	
1/11/02	Dolly Choi	Inland Empire West	CO	Fema	Asian/ Pacific	Oak propagation, restoration	phone	DD	20	
1/11/02	Erik Beardsley	NRCS Area Office	OT	Male	Hispanic	Review CFT draft proposals on	e-mail	DD	120	
1/11/02	Glenn Sakamoto	Hoolehua Plant Materials Center	OT	Male	Asian/ Pacific	Farm show info. On conservation tillage.	phone	DD	20	
1/11/02	James Komar	NRCS Area Office	OT	Male	White	Review of soils data for Tule lake	e-mail	DD	15	

1/11/02	Jason Jackson	Escondido Service Center	phone	DD	30	FO	Male	White	Review trip/site visit on 1-14-2002
1/11/02	Lisa Hokholt	San Francisco Urban Office	phone	OT DD	20	Fema	White		Stipa genetics paper for use in SF.
1/11/02	Mandy Tu	The Nature Conservancy of Oregon	CO	Fema	Asian/ Pacific	Veg. Guide use for invasive sp. Control and restoration.		phone	DD 20
1/11/02	Patrick Evans	Placerville Service Center	in person	DD		FO 175 areas	Male	White	Review of CFT brush control in range
1/11/02	Paul Benedict	NRCS Area Office	phone	OT DD	15	Male	White		Review S. CA. trip to Escondido, LA and Somis. Also reviewed Riverside conservation center.
1/11/02	Phillip Blake	Napa Service Center	FO	Male		White			Develop willow/salt tol. Study phone DD 20
1/11/02	Stephen Jewett	Somis Service Center	phone	DD	15	FO	Male	White	Review cover crop and Arundo trip on 1-16-2002.
12/13/01	Bob Long	Red Bluff Service Center	in person	FO DD		Male 120	White		FP seed for control of invasive sp.

12/13/01 shipments DoFreso	Carolyn phone Center	Fresno Service DD 20	FO	Fema		Unknown	FP seed
12/13/01 grass seed order for field	Cheryl Zelus	Templeton Service in person	JH	FO 480 planting use		Fema	White Native
12/13/01 order shipping	Dave Duraham phone Center	Fresno Service JH 10	FO	Male		White	FP seed
12/13/01 orders for pasture, wildlife	Dave Duraham	Fresno Service in person	FO JH	Male 780 area, CAT bank, idle farm land restoration.		White	5 FP seed
12/13/01 order for stream CAT	Dave Simpson in person Center	Stockton Service JH 3	FO	Male		White	FP seed
12/13/01 order shipment	Dave Simpson phone Center	Stockton Service JH 5	FO	Male		White	FP Seed
12/13/01 seed planting for cover	Doug Petters	Hanson trust UC phone DD	CO 20	Male crops		White	Info on Sulla
12/13/01 soil - plant interactions	Emmett Cartier Center	Concord Service phone DD	FO 10	Male		White	Soil survey ,

12/13/01	Larry Branham	Red Bluff Service	FO	Male	White	FP plant propagation info for a grass	phone	JH 10
	Center			waterway				
12/13/01	Lori Metz	Willows Service	FO	Fema	White	Seed for FPin person	JH	60
	Center							
12/13/01	Lori Metz	Willows Service	FO	Fema	White	FP order for range seeding	phone	JH 5
	Center							
12/13/01	Richard	Lancaster Service	FO	Male	Black	Willson High School conservation	phone	DD 10
	Campbell	Center		demo site, planning review trip.				
12/13/01	Tom Suazez	East Bay Municipal	CO	Male	White	Use of wetlands to control Penn mine	in person	DD 30
	Utility District			copper waste coming into Pardee				
12/10/01	Harold	Prnuski-Chatham	CO	Male	Unknown	Reveg. , mulching and weed free	phone	DD 20
	Appleton			forage information.				
12/10/01	Jennifer	California NRCS	SO	Fema	White	PM Program overview and PMC	in person	DD 120
	MacLean	State Office		operations training				
12/10/01	Tom Jones	USDA-ARS Utah	CO	Male	White	Seed collections of four stipa native	mail	DD 60
	State Univ.			grasses for gene study.				
12/3/01	Ann Francis	Alturas Service	FO	Fema	White	Propagation of oaks, FP request	e-mail	DD 30
	Center							

12/3/01 15	Carlon Malstom	Mich. State Univ.	GE	Fema	Unknown	Bolando brome seeding rates and use		phone	DD
12/3/01 15	Jinnifer Kujawski	National Plant Materials Center	OT	Fema	White	Info.on national PLANTS Newsletter, topics		phone	DD
12/3/01 PI187309	Michael Anthony	Sanoma State Univ. phone	GE DD	Male 10	Unknown	Ehrharta calycina			
12/3/01 info, with Tech	Rita Bickel	NRCS Area Office phone	OT DD	Fema 10	White	CTF, FP and weeds			
						note 56			
11/16/01 blower out and hooked to		David Simpson Center	Stockton Service in person	FO CA	Male 90	White	Got straw		
						4x4 dodge, did maintance and prep. For equipment to go off center.			
11/16/01 FP with Lana vetch and P,		Marcel Smith Utility District	East Bay Municipal in person	DD	CO 360	Male	WhitePlanted		
						Planted study to determine level of P to use to control invasive sp.			
11/13/01 on Sulla vetch		Alfred Ramos phone	Somis Service Center DD 10		FO	Male	Hispanic Info		
11/13/01 development of fire		Bruce Munda e-mail Materials Specialist	Arizona Plant DD 130	OT	Male	White	Review and		
						rehab. brochure			

11/13/01	Doug Petters	Hanson trust UC	CO		Male		White	Info on sulla	
vetch for use in	phone	DD	30						
11/13/01	Glenn	Hoolehua Plant	OT		Male		Asian/ Pacific	PM tech	
note 16 using rice hulls to		phone	DD	15					
Sakamoto	Materials Center				seed very small seed.				
11/13/01	Mark Venis	N/A	GE	Male	Unknown		Info on Vetaver grass		
use in CA	phone	DD	20						
11/5/01	Lisa Hokholt	San Francisco	FO	Fema	White	Stipa seeding issues, how far the		e-mail	DD
30									
						source seed can be away from the restoration project.			
11/5/01	Marta Lutz	Red Bluff	CO	Fema	White	PMC info on NRCS plants to use in		mail	DD
10									
						watershed areas, brochure			
11/5/01	Richard Cronn	Corvallis USDA FS			CO		Male	Unknown	
Native grass propagation info.		e-mail	DD	15					
	PNW Research								
10/31/01	Alfred Ramos	Somis Service Center			FO		Male	Hispanic	
Arundo CFT review	phone	DD	6						
10/31/01	Charles Diehl	Yreka Service	FO		Male		White	Wind erosion	
CFT development	phone	DD	5						
	Center								

10/31/01 review of	Chile group in person	Chile DD	GE 2400	Male	Hispanic	Chile group of 5 persons buffer and WQ issues in and near stream areas and popular trees used to remove N and P. Worked with Napa, Concord, Modesto, Jamestown staffs.	
10/31/01 CFT development	Dennis Moore phone	Red Bluff DD	AO 8	OT	Male	White	Wind erosion
10/31/01 types and lab tests needed	James Komar Office	Red Bluff Area phone	DD	OT 8	Male	White	Soil sample for Petaluma manure use study
10/31/01 manure use study, soil	Jon Gustafson	Petaluma phone	DD	FO 12	Male	White	Plan for samples and lab tests needed.
10/31/01 study needs, FO requests	Paul Benedict	Riverside phone	AO DD	OT 5	Male	White	CFT and
10/31/01 on willow study, napa river, to	Phillip Blake	Napa Service Center phone		DD 13	FO	Male	White Ideas find out salt tol. Levels, plant at different ele.
10/31/01 conservation and demo area	Richard Campbell	Lancaster Service Center phone		FO DD 7	Male	Black	Backyard development
10/31/01 assistance request	Sandra Higa phone	Alturas Service Center DD		FO 10	Fema	White	Stream team

10/12/01	John Weatherford	Woodland Service Center	FO	Male	White	collected field data, 216 soil samples, two root evaluations on native grasses for carbon seq., at J. Anderson farm	in person	DD	1320
10/12/01	Lucy Adams	Eva Butler and Ass.	GE	Fema	Black	Native grass performance standards and specs. For Sacramento flood retention basins.	phone	DD	35
10/12/01	Marcia Gibbs	1170 N Lincoln	CO	Fema	White	Saltgrass propagation and source	phone	DD	15
10/12/01	Norman Melven	Fort Collens, CO	CO	Male	Unknown	Info on wetland instructors for Wetland Sci. Ist. Course at Davis, Wetland weeds issues	phone	DD	10
10/12/01	Richard Cronn	USDAFS	GE	Male	Unknown	Info on propagation of Calamagrostis breweri	e-mail	DD	15
10/12/01	Steve Jewett	Somis Service Center	FO	Male	White	Stream restoration, sp. Use in grasswater way, Arundo CFT, Cover crop CFT	phone	DD	20
10/5/01	Bruce Verhei	Olympia, WA	GE	Male	American Indian/	Beargrass propagation	e-mail	DD	13
10/5/01	Erik Beardsley	Red Bluff AO	OT	Male	Hispanic	CFT carbon and root guidance	phone	DD	60

10/5/01	Judy Harrington		Fort Collins, CO	GE	Fema	Black	Saltgrass propagation and materials	e-mail DD 11
10/5/01	Ken Weaver	Susanville Service Center	FO	Male	White	Invasive sp. Seeding review	phone DD 20	
10/5/01	Larry Branham		Red Bluff Service Center	FO	Male	White	FP review, native grass filter strip	phone DD 15
10/5/01	Larry Pollard	MN	GE	Male	White	Use of native grass seed drills in CA	in person DD 53	
10/5/01	Mike McElhiney	Modesto Service Center	FO	Male	White	Modesto JC projects and studies	phone DD 10	
10/5/01	Ron Alves	Modesto, CA	GE	Male	White	Joint studies and projects with Modesto JC	in person DD 73	
9/28/01	Ann Francis	Alturas Service Center	FO	Fema	White	restoration site and carbon seq. Review	phone DD 60	
9/28/01	Emmett Cartier		Livermore	FO	Male	White	Restoration planting guidance	phone DD 20

PMC Seed Production of NRCS Releases by CAPMC

Foundation	Certified Seed	Common Seed

Release/Symb	lbs.	$/lbs.	Valu	lbs.	$/lbs.	Valu	lbs.	$/lbs.	Valu	Total
Akaroa / DAGL	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Berber / DAGL	350	$10.00	$3,500	0	$0.00	$0	0	$8.00	$0	$3,500
Blando / BRHOH	0	$0.00	$0	0	$0.00	$0	0	$2.00	$0	$0
Cucamonga / BRCA5	70	$10.00	$700	0	$0.00	$0	0	$6.00	$0	$700
Cuesta / CEFL4	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Dorado / CLIS	20	$10.00	$200	0	$0.00	$0	0	$0.00	$0	$200
Duro / ERFA2	6	$40.00	$240	0	$0.00	$0	0	$0.00	$0	$240
Lana / VIVIV8	0	$0.00	$0	0	$0.00	$0	0	$1.20	$0	$0
Lassen / PUTR2	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
LK115d Germplasm / NAPU4	1	$40.00	$40	0	$0.00	$0	0	$50.00	$0	$40
LK215e Germplasm / NAPU4	1	$50.00	$50	0	$0.00	$0	0	$50.00	$0	$50
LK315d Germplasm / NAPU4	1	$50.00	$50	0	$0.00	$0	0	$50.00	$0	$50
LK415f Germplasm / NACE	1	$50.00	$50	0	$0.00	$0	0	$40.00	$0	$50
Maleza / CECO	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Marana / ATCA2	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Mariposa / ELGL	10	$40.00	$400	0	$0.00	$0	0	$15.00	$0	$400
MonteFrio / TRHI4	0	$0.00	$0	0	$6.00	$0	0	$4.00	$0	$0
Panoche / BRRU2	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Perla / PHAQ	50	$10.00	$500	0	$0.00	$0	0	$7.00	$0	$500
Rio / LETR5	20	$50.00	$1,000	0	$0.00	$0	0	$40.00	$0	$1,000

Sierra / ERUMP	15	$40.00	$600	0	$30.00	$0	0	$0.00	$0	$600
Wilton / TRHI4	0	$0.00	$0	0	$0.00	$0	0	$4.00	$0	$0
Wimmera 62 / LORI	0	$0.00	$0	0	$0.00	$0	0	$1.00	$0	$0
Zorro / VUMY	150	$9.00	$1,350	0	$8.00	$0	0	$7.00	$0	$1,350
Total Value for CA:	695		$8,680	0		$0	0		$0	$8,680
Grand Totals:	695		$8,680	0		$0	0		$0	$8,680

PMC Vegetative Production of NRCS Releases

Release / Symbol	Type	Clas	Amount	Value	Total
Dorado / CLIS	Liners	Foundation/G1	200	$3.00	$600
Dorado / CLIS	Container	Foundation/G1	500	$4.00	$2,000
	Total for Release:		700		$2,600
Duro / ERFA2	Liners	Foundation/G1	3,200	$3.00	$9,600
	Total for Release:		3,200		$9,600
LK115d Germplasm / NAPU4	Liners	Foundation/G1	2,000	$0.20	$400
	Total for Release:		2,000		$400
Marana / ATCA2	Container	Foundation/G1	500	$3.00	$1,500
	Total for Release:		500		$1,500
Rio / LETR5	Liners	Foundation/G1	21,600	$0.20	$4,320
Rio / LETR5	Liners	Foundation/G1	4,400	$0.20	$880
	Total for Release:		26,000		$5,200

Sierra / ERUMP	ContainerFoundation/G1	500	$4.00	$2,000
	Total for Release:	500		$2,000
	Total for State (all releases):	32,900		$21,300
	Grand Total (all states, all releases):	32,900		$21,300

Other Production for CAPMC

Vegetative Production:

Stock Type	Amount	Purpose	Comment
Liners	19000	field planting	
Liners	55000	field planting	
Liners	15000	reimbursable	NPS
Liners	5000	field planting	

Commercial Seed Production of NRCS Lockeford PMC Releases

	Foundation			Certified Seed			Common Seed			
Release/Symb	**lbs.**	**$/lbs.**	**Valu**	**lbs.**	**$/lbs.**	**Valu**	**lbs.**	**$/lbs.**	**Valu**	**Total**
Akaroa / DAGL	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Berber / DAGL	0	$10.00	$0	0	$0.00	$0	2000	$8.00	$16,000	$16,000
Blando / BRHOH	0	$0.00	$0	0	$0.00	$0	100000	$2.00	$200,000	$200,000
Cucamonga / BRCA5	0	$10.00	$0	0	$0.00	$0	30000	$6.00	$180,000	$180,000
Cuesta / CEFL4	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0

Dorado / CLIS	0	$10.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Duro / ERFA2	0	$40.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Lana / VIVIV8	0	$0.00	$0	0	$0.00	$0	120000	$1.20	$144,000	$144,000
Lassen / PUTR2	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
LK115d Germplasm / NAPU4	0	$40.00	$0	0	$0.00	$0	200	$50.00	$10,000	$10,000
LK215e Germplasm / NAPU4	0	$50.00	$0	0	$0.00	$0	300	$50.00	$15,000	$15,000
LK315d Germplasm / NAPU4	0	$50.00	$0	0	$0.00	$0	150	$50.00	$7,500	$7,500
LK415f Germplasm / NACE	0	$50.00	$0	0	$0.00	$0	200	$40.00	$8,000	$8,000
Maleza / CECO	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Marana / ATCA2	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Mariposa / ELGL	0	$40.00	$0	0	$0.00	$0	3000	$15.00	$45,000	$45,000
MonteFrio / TRHI4	0	$0.00	$0	200	$6.00	$1,200	9000	$4.00	$36,000	$37,200
Panoche / BRRU2	0	$0.00	$0	0	$0.00	$0	0	$0.00	$0	$0
Perla / PHAQ	0	$10.00	$0	0	$0.00	$0	10000	$7.00	$70,000	$70,000
Rio / LETR5	0	$50.00	$0	0	$0.00	$0	2000	$40.00	$80,000	$80,000
Sierra / ERUMP	0	$40.00	$0	60	$30.00	$1,800	0	$0.00	$0	$1,800
Wilton / TRHI4	0	$0.00	$0	0	$0.00	$0	5000	$4.00	$20,000	$20,000
Wimmera 62 / LORI	0	$0.00	$0	0	$0.00	$0	100000	$1.00	$100,000	$100,000
Zorro / VUMY	0	$9.00	$0	500	$8.00	$4,000	40000	$7.00	$280,000	$284,000
Total Value for CA:	0		$0	760		$7,000	421850		$1,211,500	$1,218,500
Grand Totals:	0		$0	760		$7,000	421,850		$1,211,500	$1,218,500